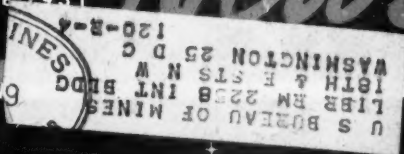


BUTANE-PROPANE

HEADQUARTERS FOR LP-GAS
INFORMATION SINCE 1931

News



WARREN

PETROLEUM CORPORATION

TULSA, OKLAHOMA

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DECEMBER, 1949—50c per Copy

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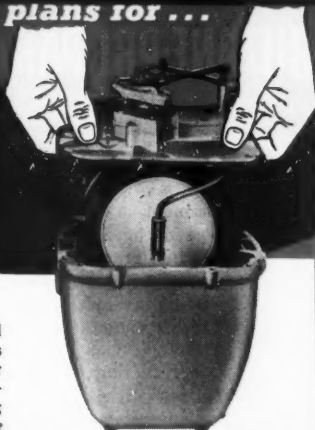
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There's no need to shy away from metering because of anticipated repair difficulties. We've streamlined that procedure for LP-gas dealers with the six repair plans listed below. Here's just another way we help our customers get the most out of their meters—another good reason for checking all the advantages of using Rockwell-Emco No. 00 LP-gas meters on your services. Write for bulletin 1163.



Illustrating how entire measuring mechanism (valve plate assembly) lifts from meter case. This can be returned to factory to be serviced or it may be replaced with a completely new unit in your own shop. Choice of six repair plans described below.

WHEN ENTIRE METER IS RETURNED

CLASS 1 REPAIR

Remove seal wire, index box, index, top, valve cover and crank assembly. Inspect all parts. Regrind valve covers and valve seats. Clean and adjust mechanism. Reassemble meter with new gaskets and seal wire. Re-prove, pressure test, low light test, wash, paint and pack. **\$3.50 net**

CLASS 2 REPAIR

Remove parts listed in Class 1 repair plus flag arms, packing glands, collars, pins, valve plate from body and dismantle valve and crank assembly. Inspect all parts. Re-oil diaphragms. Regrind valve covers and valve seats. Repack glands. Clean and adjust mechanism. Reassemble meter with new gaskets and seal wire. Re-prove, pressure test, low light test, wash, paint and pack. **\$4.50 net**

CLASS 3 REPAIR

Remove parts listed in Class 1 and Class 2 repair plus disassembly of diaphragms from rods, leathers from pans. Inspect all parts. Install new diaphragm leathers and test. Straighten rods and assemble to pans. Regrind valve covers and valve seats. Repack glands. Clean and adjust mechanism. Reassemble meter with new gaskets and seal wire. Re-prove, pressure test, low light test, wash, paint and pack. **\$5.50 net**

Replacement of other parts will be at listed sale prices. Customer to pay freight both ways.

WHEN INTERNAL MECHANISM ONLY (VALVE PLATE ASSEMBLY) IS RETURNED

CLASS A REPAIR

Remove valve cover and crank assembly from valve plate. Re-oil diaphragms. Regrind valves and valve seats. Inspect all parts. Replace worn parts where required. Repack glands. Clean, adjust and re-prove unit in a meter body. **\$4.25 net**

CLASS B REPAIR

Disassemble entire unit. Install new diaphragm leathers and test. Regrind valves and valve seats. Inspect all parts. Replace worn parts where required. Repack glands. Clean, adjust and re-prove unit in a meter body. **\$5.50 net**

NEW INTERNAL UNIT PLAN (No return of old unit required)

After a period of years, the entire internal mechanism of the No. 00 meter can be completely renewed by simply inserting a factory-fresh valve plate assembly in the old meter body. Also a stock of extra internal mechanisms may be desired. All units are interchangeable and proof of meter is not affected. Everything in this assembly is entirely new, ready to give new meter performance. No turn-in of old unit is required. **\$8.50 net**

All prices are based on customer paying freight to and from factory and are subject to change without notice.

PITTSBURGH EQUITABLE METER DIVISION

Rockwell Manufacturing Company • Pittsburgh 8, Pa.



A JENKINS PUBLICATION

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Publication Office

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Branch Offices

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LETTERS

● **BUTANE-PROPANE** News welcomes letters from our readers, but it must be understood that this magazine does not necessarily concur in opinions expressed by them.—Editor.

Gentlemen:

Regarding cylinders up to 100-lb. size, what is the rate of depreciation per year? We have been told that they are usually depreciated at the rate of 10% per year, or written off in 10 years. Would you say this was about right?

W.J.S.

Wisconsin

It is a common practice in our industry for dealers to write off their cylinder investments on a 10-year depreciation plan. This also seems to be satisfactory to the income tax authorities as no objection has been made to it by them as far as we know.—Ed.

Gentlemen:

Several of our customers have 1000-gallon underground butane tanks for commercial purposes. Now that tractors are being converted to butane, some of these customers have asked me if it is practical to pump out of 1000-gallon tanks by inserting a pumping tube into the filler valve or any other opening which they may have.

I have heard pros and cons about this subject and would like to know what is your opinion.

E.M.

Louisiana

We know of no good reason why liquid should not be taken from an underground storage tank for use in other equipment.

However, the average pump has to be installed low enough for gravity feed to the

pump as LP-Gas is not easily pumped by suction. A compressor system could also be used.—Ed.

Gentlemen:

Can you give us an idea how large an LP-Gas heater would be required to take care of a brick space 11 feet wide, 10 feet high and 20 feet long with one door and three windows?

Also an estimate of the cost of propane for same at 12 cents per gallon.

F.H.M.

Illinois

Your room contains 2200 cubic feet and with a factor of 10 Btu's per cubic foot, indicates that you require a heater of approximately 22,000 Btu input, so a 20,000 or 25,000 Btu heater should answer your requirements.

At the 12-cent per gallon price for propane, you would be able to operate approximately $4\frac{1}{2}$ hours per gallon with a heater of the above capacity, or about three cents per hour.—Ed.

Gentlemen:

We would like to know the correct hook-up for meter use in propane gas use. Also would like to know how to figure and charge if the gas costs us 10 cents per gallon and 9 cents per gallon.

We are planning on hooking up several store buildings off one tank. Please give us your suggested plan for such a job.

A.E.

Kansas

In using several meter installations off of one tank, be sure the lines carrying the vapor are large enough and also that your storage tank has sufficient capacity to vaporize the

amount of gas necessary for peak load. You can follow the principle of feeder lines as would be used in a natural gas system, with the meter installed between the regulator and the appliances. A regulator and meter should be used for each store building served.

In figuring the size of tank, take the capacity of tank and multiply by .2 to get the average amount of propane that this size tank will vaporize per hour.

If you do not correct for temperature, a simple way to figure your cost per cubic foot vapor is to divide the cost per gallon by 32, which will give you cost per cubic foot of vapor, as $10c \div 32 = .03125c$ per cu. ft. vapor.—Ed.

Gentlemen:

Please advise if in your opinion we can pull 800,000 Btu off of a 500-gal. underground tank using 60-40 mixture at 20°.

W.C.G.

Louisiana

If you expect to pull 800,000 Btu it means that your customer will be using approximately eight gallons per hour. You do not say if the operation is continuous or based on an eight-hour day but if the operation is on a 24-hour continuous basis it would mean you would have to refill your 500 gallon tank about every day and a half in order to keep it above the trouble-free point of 50% full.

It might give sufficient vaporization down to 25% full but it would be safer to have more in it.

We have assumed that the 20° temperature you mention is the outside temperature rather than that of the tank under ground.—Ed.

Gentlemen:

I am interested in knowing how to construct a refrigeration unit for a small camping trailer, using Freon gas as the refrigerant and butane or propane to maintain the burner.

S.D.L.

Washington

The only successful gas fired refrigerator developed to date is made by Servel, Inc., Evansville, Ind.

Many firms have tried to develop a substitute for their method, but to date all have failed.—Ed.

Gentlemen:

How high a compression should be and can be used on a Ford industrial motor No. 7HNN5C*, 226 cu. in., 1400 r.p.m., and a Ford 6 cyl. car? Both motors have head No. 7HA 6050-C2.

What change do you recommend in spark plugs and ignition?

Do you recommend planing head or get a special butane-propane head?
J.O.

Oklahoma

On your two engines we recommend that you mill .060 in. off the heads, as we believe that Ford does not make a special high compression head for this engine. This would raise your compression from approximately 6.7 to 7.3 to 1.

We recommend you use one grade colder spark plugs.—Ed.

Gentlemen:

This is a community in which much seafood is handled and among other things crabs are boiled and then picked and canned.

Some of the processors are using oil to boil their crabs, using electric motor driven blower to vaporize the oil.

The vat being used is 3 x 5 x 1.5 ft. The oil brings it to a boil in 30 minutes and three gallons of oil per hour is the average consumption.

Our problem is: Can we do it better or cheaper or even as well with butane?

Our figuring the vat into cubic feet, then gallons, then pounds, then Btu indicates that the amount of heat required to boil the water would be about 279,000 Btu's. How quick that amount of heat would boil that amount of water is not indicated. Also experience shows that less heat is required to maintain the water at a boil than was required to raise it to a boil.

What effect would the addition of the crabs to the water have? Should

that be figured on a basis of more Btu's per pound of meat?

Of course the price of current to operate the motor and the price of the oil would have a bearing on the comparative operating costs but we can figure that if we can be informed in regard to the questions raised above.

It seems we are a little short on our engineering information. One hp. is that amount of power necessary to raise 33,000 lbs. 1 ft. in 1 minute.

One Btu is that amount of heat necessary to raise one pound of water one degree. But in what period of time?

E.M.G.

Alabama

Gas-fired kettles would operate more efficiently than oil-fired ones and can be controlled much easier.

We would suggest installation of a burner with at least 500,000 Btu per hour input. This will enable them to bring the water to a boil in about the same time as they are doing with oil.

The amount of heat required to boil the crabs or fish will be less than the heat required to raise the same weight of water from that temperature to boiling. Usually there is enough heat in the pot of boiling water with little additional outside heat to boil the crabs quickly.

A Btu is the amount of heat required to raise one pound of water 1° F, starting at 60°F, regardless of the time required.

Your definition of a horsepower is correct. Possibly, you would like to have a more complete one which I am giving you from a technical handbook. It is as follows:

Force may be defined as an action between two bodies, causing or tending to cause, rest or motion. The unit of force is the force required to support a weight of one pound on any specified place on the globe.

Work may be defined as the combination of force and motion. The unit of work is a

force of one pound exerted through a distance of one foot.

Power may be defined as the speed of doing work. The unit of power is a force of one pound exerted through a distance of one foot in one minute.

A horse power is equal to 33,000 of the above units of power.—Ed.

Gentlemen:

We have a 30,000-gallon propane storage tank. It measures 66 ft. long by 9 ft. in diameter. The tank has the manhole at one end on the top of tank. After installing the safety valves, gauges, etc., one hole of $\frac{3}{4}$ " was left and the engineers making that installation, instead of plugging that hole, installed one service cylinder valve with safety device setting at 375 lbs.

We never had any trouble with this valve, but we are afraid that sometime in the future its packing or diaphragm may break and gas will be lost through that hole and practically nothing can be done to stop it when that occurs.

To solve this problem, shall we empty entirely the tank to remove that cylinder valve and properly plug that hole? Or do you suggest any other way to do it? We hate to go to the trouble of emptying that big tank and lose some gas or vapors.

C.S.A.

Mexico

We believe you should leave the valve in the tank rather than go to the trouble of trying to change it, as the probability of anything breaking in the valve is very remote.

If anything did break, you would not be any worse off than if you deliberately blew the gas off to lower the pressure to where the valve could be changed.—Ed.



PROPANE - BUTANE AND MIXTURES



Twing Galloway Photo

BE SURE OF YOUR SUPPLY

UPG diversified production from major L-P Gas manufacturers assures you an ample supply to fill your needs during seasonal and industrial emergencies.



United Petroleum Gas operates a large fleet of tank cars and trucks to deliver your L-P Gas requirements... when needed... where needed.

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COMMENT

It's early—but, Merry Christmas!

WHAT are the most important issues before the LP-Gas industry today?

Well, there's always **safety**. That comes first. And safety naturally brings up the question of **insurance** for protection if safety is not practiced.

Competition is every dealer's problem. Most think of electricity as the biggest competition. That's important, but every gadget on the market from television sets to pari-mutuel tickets competes for the public's dollars. The worst competition is that between dealers, themselves. That's ruinous.

Tying in with competition is the thought of **publicity** and **advertising**—mediums to propagandize the LP-Gas industry and thus combat competition. Kindred to those subjects is the general one of **promotion of industry welfare**, which may be through publicizing and/or the raising of standards of operations to cultivate public confidence.

All of these ends are aided and nearer accomplishment when individual firms take the time to study their problems and to unite their efforts to gain desired results. This can be realized best through **employee training** which, of course, includes consideration of **safety, selling, servicing, installation, record keeping, customer relations, and cooperation**.

Under **selling** comes the development of increased load and new load. More than half of all LP-Gases sold in this country have been going into domestic applications, mostly limited to cooking, water heating, and re-

frigeration. The great new load on the horizon is **space heating**. It offers the quickest, surest, biggest profits in the immediate future.

But selling the heating load throws off the **summer-winter balance**, one of the serious problems of producers and marketers, alike. Part of the answer to this is **larger consumer storage**, and it is being prosecuted with success. A better way is to find new summer load, and now this is in the offing in the increasing use of butane and propane for internal combustion engine fuel that is finding popularity among farmers for their tractors, trucks, and irrigation pumps. It is not too much to prophesy that before long the **tractor load**, alone, (where tractors are extensively used), will balance all domestic demand, including the expected increased heating load.

Added to the whole is the question of cooperative effort by dealers through their industry organizations—state and national associations. Banded together, and striving for common good, the united strength of such groups can accomplish important objectives.

There are other industry "issues," of course, but these are among the foremost today. So, let's emphasize them by a recapitulation. Here are the subjects:

Safety. Insurance. Competition. Publicity. Advertising. Industry Promotion. Employee Training. Selling. Space Heating. Load Balance. Larger Storage. Tractor Fuel. Cooperation Through Associations.

Pick out the ones where you are weak and bolster up your offensive!

Arriving too late to be included in our news columns is an announcement from Plumer E. Pope, 777 Broad St., East Weymouth, Mass., that a temporary committee of LP-Gasmen has been formed to arrange for the formation of a New England LP-Gas dealers' association.

A meeting has been tentatively set for the evening of Jan. 17 at Boston. Complete information regarding the meeting will be mailed to all dealers who send their name and address to Mr. Pope at the above address.

All LP-Gas dealers in the New England section are eligible and are urged to make an effort to attend this meeting.

Not all careless dealers will have as amiable a customer as Helen Mout, of Fayetteville, Ark. According to a letter received from her some time ago, "When we had our propane system installed, the workmen left many boxes and oddly shaped pieces of cardboard. With much paint, paste and imagination we made a miniature reproduction of our farm. Most of the boxes resembled buildings and

only needed a little bending here and there to make a house, barn and outbuildings. Two triangular shaped pieces about a foot long each were pasted together to make a silo. We glued all the buildings to a square of cardboard and painted the remaining area green.

"Reproduction of our farm 'stole the show' with our two boys on Christmas morning."

It worked out all right this time but ordinarily dealers will do well to leave premises in an orderly condition when making installations.

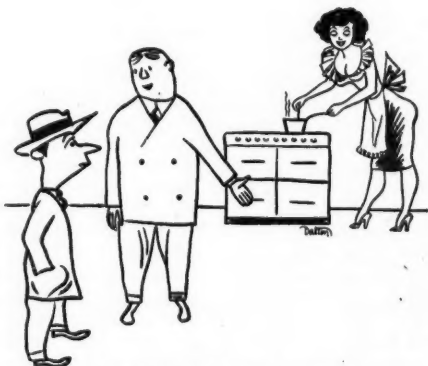
The Bureau of Mines has estimated that the total demand for petroleum products in the last half of 1949 will be 5.9% greater

than for the same period in 1948.

The bureau does not estimate the LP-Gas demand but states that heating oils will show increased sales of 20% over last winter.

Can't LP-Gas dealers do better than that?

By Ed.



"She's well insulated, streamlined, and complete with push-button control."

BEYOND THE MAINS



MEMBERS of the butane-propane industry, most of them in the category of small business men, are in competition with the government at every level. The fact that the industry is making strides ahead in spite of this competition is eloquent testimony of its vitality and great future.

The different levels of this competition are: The highly subsidized TVA and other big government power projects at the top level; Rural Electrification Administration at the medium level; and now, at the final level, the small city municipally operated electric plant, of which more later.

President Harry Truman was a small business man himself once, too, in haberdashery. If it would accomplish any objective, maybe someone from the butane-propane industry ought to see him one day, and acquaint him better with the industry and what it's doing.

Speaking of competition of local governments with the industry, there's a good case in point in the towns of Rockville Center and Patchogue, Long Island, New York.

Electric power companies owned municipally by these small cities, themselves, are competing intensively against bottled gas men, some of whom pay taxes to help support these companies.

These publicly owned companies are selling electricity at prices lower than Long Island Lighting, the combination electric and gas utility which covers most of central and eastern Long Island.

The fact of lower price in itself suggests that one way or another these two municipal companies are getting a hidden subsidy. We're told that the tax rate in Rockville Center and Patchogue is higher than in towns served by Long Island Lighting, and these higher taxes may support the town-owned electric system.

These town utilities are advertising against the bottled gas man, in effect. They're advertising an off-peak rate on water heating, and making the fallacious claim that cooking is cheaper with electricity.

AN automobile distributor found that placing mirrors in his display room boosted sales. Or at least he sold a larger percentage of the cars of whatever model he placed in front of a mirror than those not so situated.

It seems women liked to see themselves sitting in the cars.

The same idea has been tried with success by other automobile distributors and firms in other lines.

Maybe this has an application to the butane-propane business. And perhaps a customer is more likely to buy an appliance if she can look into a mirror and see herself standing in front of it.

Another little story about how much it pays to pay attention to customer whims has to do with collections on installment plan purchases.

One clerk out of a group of collector clerks had no trouble getting in payments. The bosses looked into it.

It developed this particular clerk or teller was giving each child who came in a lollypop costing a quarter of a cent.

The kid would ask the mother please go to the place where man was who gave out the lollypops.

P.S. Don't, however, let this lollypop idea intrigue you into going into the installment financing business yourself, unless you're an expert banker. Let your local bank or a good finance company handle it, and pick a plan that won't leave you holding the bag.

We're indebted to Red Motley, the speaker the North Eastern District got for their luncheon at the Statler in New York, for the above incidents, but some of the interpretation is our own. The North Eastern people are to be congratulated on a very fine program, and everybody who spoke or served on a committee or worked on a program deserves a pat on the back. A full report on the meeting appeared in the November issue.

Propane operators on Long Island in New York State had a good meeting this fall. Congratulations to them.

Ed Titus

One Solution to Year-Round Balance:

SELL THE TRACTOR LOAD

THAT old LP-Gas operator bugaboo—balancing the load—has been plaguing the industry since its inception. The customers all buy gas in large volume during the cold winter months; in the summer, sales of the fuel fall off, and dealers and producers and distributors are all beset with the task of finding some way to dispose of or store the gas until demand goes zooming upward again with the first frost.

Ideally, the best way out is to balance the consumption load. In the task of trying to do so—to keep winter sales in reasonably even proportion with summer sales—LP-Gasmen have searched for new utilizations of butane and propane, uses that would draw on the ample summer supplies as well as the thinner winter reserves.

Kansas dealers have found an answer that may go a long way toward a workable solution.

Through concentration on selling Kansas farmers on conversion of tractors to LP-Gas use, they have been able to greatly improve the sales volume of their summer loads so as to strike a much better balance of consumption. How this was done

MR. DARLING'S ADDRESS upon the value of selling the plan of tractor conversions to farmers offers a challenge to the industry wherever tractors are used. It is not only a way to establish better summer-winter load balances, but offers a source of important profits.

Mr. Darling's entire paper was too long for reprinting here, but a review of his presentation has been made by *BUTANE-PROPANE News* and his explanation of the accompanying Stanolind Oil & Gas Co. charts is given in full.

We have omitted the technical details of the equipment required to make conversions by a newly offered method as being secondary to the importance of showing what happens to fuel sale curves when a sizable number of tractors burn LP-Gas in the summer months.—Editor.

was illustrated fully in an address by Si Darling, president of LPGA.

Mr. Darling related how Kansas dealers, working on the problem through their state association, realized that conversion of only 16% of the tractors in their state

Based upon a talk by Si Darling before the members of the Colorado LP-Gas Assn.

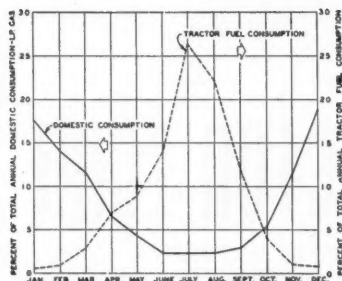


CHART 1. MONTHLY PERCENTAGES OF ANNUAL CONSUMPTION DOMESTIC LP-GAS AND TRACTOR FUEL, STATE OF KANSAS 1948.

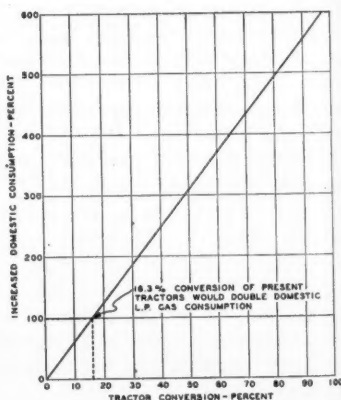
would furnish an additional market for their product in the summer months to equal the entire present domestic demand. Kansas dealers have already made headway toward this goal, Mr. Darling reported, because (1) efforts were concentrated in selling the idea of conversion, through association effort, (2) the Garretson carburetion system was made available to prospective customers at a lower initial conversion cost, and (3) performance showed that farmers could get better, more economical performance by using LP-Gas in their tractors than with gasoline.

To illustrate his address, Mr. Darling used charts prepared by H. R. Thomas, W. R. Thorne, and Walter Scott, all of Tulsa, Oklahoma. Much of the information for the charts was supplied by R. H. Mahnke of the Kansas LP-Gas Assn. These charts show that LP-Gas use for tractor fuel in Kansas has been plotted on a conservative

basis as (1) the domestic consumption was increased 10% over actual for 1948, and (2) published information since these charts were prepared indicates that 5.7% more tractors are in use in Kansas than the number used in the charts.

Chart No. 1 shows percentage-wise, how the conversion of tractors from gasoline to LP-Gas for fuel tends to adjust the present domestic winter-summer ratio of sales in Kansas. This chart shows that approximately 80% of the total annual consumption of LP-Gas is used in the six heating months and approximately 20% in the six summer months. As a direct opposite, the chart further shows that only 10% of the total annual consumption of tractor fuel is used

CHART 2. POTENTIAL EFFECT OF TRACTOR CONVERSION TO LP-GAS FOR FUEL ON LP-GAS SALES, STATE OF KANSAS.



in our six heating months; whereas, 90% of the total annual consumption is used in our six summer months. It is very interesting to note that the two curves cross in April and October which is the start and the end of our heating season. This one chart alone should convince anyone engaged in the LP-Gas industry that it is desirable to sell propane for tractor use.

Chart No. 2 compares the potential effect of tractor conversion to LP-Gas fuel with domestic consumption in Kansas. This chart shows that if 16.3% of the tractors in the state of Kansas were converted to propane the consumption would equal the present domestic consumption of LP-Gas. It shows further that if only 10% of the tractors in the state of Kansas were converted to LP-Gas the consumption would be equal to approximately 63% of our total domestic consumption. If all the tractors in Kansas were converted to LP-Gas, consumption would be about 6.2 times present domestic sales.

Chart No. 3 is of special interest to the LP-Gas distributor, as well as the producer, as it shows the potential effect of tractor conversions on the winter-summer ratio of 3.9 to 1 in Kansas.

Conversion of 12.2% of the tractors in Kansas would reduce the present (3.9 to 1) ratio to 1 to 1. Any conversions in excess of 12.2% would result in more sales of LP-Gas in the summer than in winter time. The sharpness of the curve is very interesting in that it illustrates the tremendous effect of the

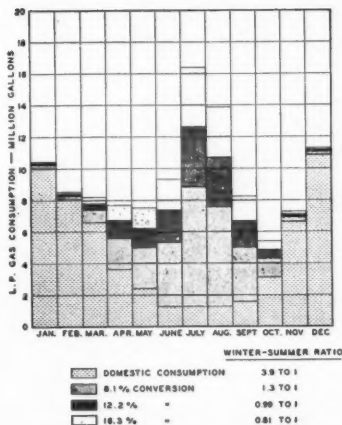


CHART 4. POTENTIAL EFFECT OF TRACTOR CONVERSIONS ON LP-GAS CONSUMPTION IN KANSAS.

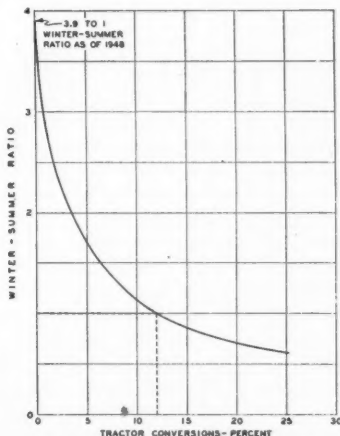


CHART 3. POTENTIAL EFFECT OF TRACTOR CONVERSIONS ON WINTER-SUMMER RATIO OF LP-GAS SALES, STATE OF KANSAS.

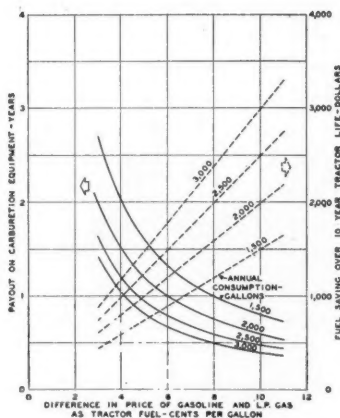


CHART 5. ECONOMICS OF CONVERTING TRACTORS FROM GASOLINE TO LP-GAS FOR FUEL. BASIS: CARBURETION CONVERSION EQUIPMENT INVESTMENT OF \$120.

initial conversions on the winter-summer ratio. If only 2.5% of the tractors are converted the winter-summer ratio becomes 2.25 to 1 instead of 3.9 to 1, while the over-all sales are increased around 16%.

Chart No. 4 shows the potential effect of tractor conversions on present LP-Gas consumption in gallons. It shows very plainly that the very low consumption for domestic use is in the months of April to September, inclusive, as represented by the light shaded area. The dark shaded area shows the tremendous increase in summer sales in LP-Gas that would result if 8.1% of the tractors in the state of Kansas were converted to LP-Gas operation. The next

lighter shade shows again the consumption of LP-Gas if 12.2% of the tractors were converted.

I wish to call to your attention how little the tractor conversions affect the delivery of LP-Gas in the six heating months and what a tremendous effect it has during the six summer months. You will note that if 12.2% of the tractors were converted to LP-Gas that our peak month would be July instead of December as is now the case. It shows still further that if 16.3% of the tractors in the state of Kansas were converted that we would have two months—July and August—in which the consumption would exceed December's peak.

Chart No. 5 shows the economics of converting tractors from gasoline to LP-Gas, using \$120 as the user's investment in a low cost carburetion system. As an example, let's assume that a consumer has a price differential of 7 cents between the price of gasoline and LP-Gas and that he uses 2500 gallons per year. The chart shows that his saving in .68 of a season would equal the cost of the equipment. It shows further that his savings in 10 years would equal \$1750.

Chart No. 5 does not consider the lower Btu value of LP-Gas for fuel, or an increase in compression ratio of the engine to give greater power and fuel economy with LP-Gas. Lower engine maintenance, and less crank-case dilution in LP-Gas use were not considered.

Tractor conversions offer a wonderful opportunity to level out our off-peak curve and we must apply the sales tools necessary to accomplish this end.



CAN YOU FIGURE YOUR COSTS ●

MR. MASSEY originally prepared the accompanying article in two parts. The first outlined in detail the problems confronting all dealers in determining their operating costs. Part 2 gave the answers.

Space limitations have compelled us to digest Part I.

—Editor

By MARSHALL H. MASSEY

The Ross-Martin Co., Tulsa, Oklahoma

GIVEN the same set of circumstances, two LP-Gas dealerships seldom will yield the same amount of profit for a given period. The difference between them, profit-wise, varies directly with the computation of what is considered to be a "fixed" factor: The cost of doing business.

Cost analysis spells the difference; and a correct and detailed analysis of costs aids a dealer in many indirect ways—it tells him where he can afford to expend maximum selling effort for the greatest yield, when it is wise for him to expand, which appliances he can handle at a fair profit.

LP-Gas dealers have a tendency to

"do their thinking in volume." That means that "costs" are considered to be a lump sum that is paid out for bills each month and which never seems to diminish. In reality, however, costs are individual expenditures for individual items of service that the dealer sells to customers. Each time a dealer pays out money, he is paying for something that he hopes will bring back more money than he has spent.



If dealers carried on just one operation, the matter would be simple—if money were spent for only one thing and received for only one thing. But most dealers are engaged in three different businesses. They are retailers of gas appliances for domestic and commercial use; they are gas engineers and plumbing contractors when they install LP-Gas equipment; they are engaged in the buying, selling, and distribution of the gas, itself.

Costs become complicated when the enterprises are increased in number. The questions that arise are many: What is your appliance market? Which items are most in demand by your customers? How much will your customers pay for them? What is your rate of turnover on the various appliances you carry? How much of your inventory is made up of "slow movers?"

You can't make a profit on appliances unless these questions are answered. If costs per unit—including varying costs of selling and operation between your different territories, the cost of selling one "class" of customer over another, and the cost of credit and billing—are analysed and computed, it is much easier to ascertain which lines and models—and in what quantities—you can afford to handle.

In opening new territories, the dealer must not only have his own costs well in mind, but must also figure those of his competitor. In which territories can the competitor operate at less cost? On what items is his cost of sale and installation and servicing low enough to make your efforts there unprofitable? What are the cost variables between "classes" in the new territory?

The LP-Gas man is not a bookkeeper—but he must become cost-conscious and expenditure-wise if he is to continue to operate at a profit. He can leave his "trial balances" to his bookkeeper, but if he doesn't know how much it costs him for each transaction he makes, he's in danger of pricing and spending himself out of business.

IN what follows you are going to hear a lot about a word called "function." "Function" means: An act, such as the act of selling appliances; the act of installing a heater; or the act of delivering gas. Here are a few more: Storing and handling stock; advertising; granting credit; keeping accounts; making collections. In your business, you'll probably have some unusual angles. So you can probably think of a few more that are

important functions in your particular business. And right here is the nub of the whole thing: you need to know how much the cost of each of these acts or functions takes away from your profit!

How to Find Distribution Costs

In finding distribution costs, you can go about it this way:

I. Find what functions are being performed.

II. Find what the performance costs are.

III. Find what unit of measure can be used in apportioning the cost as between products or territories or customers.

IV. Find what the cost per unit is.

V. Find how many units of effort or service are required for each territory, customer, or product, etc.

Now let's go back to Number I—"Find what Functions Are Being Performed." Some of the broader functions performed by the LP-Gas distributors are selling, delivering, storing and stock handling, installing, advertising, granting credit, collecting and keeping accounts. Functions can be determined in many ways, depending on the type of business. Functions can be broad or narrow. If the former, a few costs will be found, while if the latter, many costs will be found. Also many sub-functions can be set up within any broad functional activity. Naturally, the greater the breakdown of the whole function of distribution into smaller and still smaller functions, the greater the degree of control and the greater

the amount of valuable information that will be obtained.

For example—the function of selling can be divided into such sub-functions as salesmen's calls on prospects, salesmen's travel, salesmen's telephoning, salesmen's equipment, etc. The function delivering can be divided into such sub-functions as loading truck,



driving truck, unloading truck, etc. The point to which the sub-functioning of distribution should be carried depends on (1) the need for the information, (2) the cost of obtaining the information, and (3) the question of whether the cost is justified in the light of the need.

Next, let's take Number II—"What Does Performance of The Function Cost?" Use a columnar sheet with as many columns as there are functions to be analyzed. Write the name of each function at the top of each column. From a list of expenditures such as the cash disbursement record, or cancelled checks, study each expenditure in terms of the function to

which each expenditure may apply. For those expenditures which can be directly related to a function, the amount should be placed in the column for such function. Those expenditures which can't be applied in whole to a function should be allocated on some rational, or, if necessary, on some arbitrary basis, and under some circumstances might be best eliminated entirely, permitting only the direct functional costs to be entered.

After the amount of all expenditures for the period selected, (one month, three months or a year) have been entered in the columns under the name of the function to which they apply, add each column. The result will show the cost of performing each function for the period chosen.

Must Select Right Unit

Now let's discuss Number III above—"What Unit of Measure Can Be Used?" The proper selection of this service unit is very important. It must be such that it will lead to a practical distinction between costs for various classes of business, and it must relate to some factor which actually influences costs in the same way. It therefore is necessary either to select the factor which influences the greatest number of expenses, or the largest expenses, or to use a combination of factors.

Some units of measure suitable for measuring selling expense, for example, are the salesman's call on prospects, or order, the sales transactions, etc. Those for delivering could be the miles traveled, the

gallons delivered, the order, etc.

The next step to consider is Number IV—"What Is The Cost Per Unit?" Divide the total cost of the function, as shown on the columnar sheet, by the number of the units of measure involved for the period in which the expenditures were made. For example, if the salesman's call is chosen as a unit of measure, and there were 50 calls made during the period and the total cost of the function called salesmen's call on prospects was \$300, divide \$300, the cost of salesmen's calls by 50, the number of calls made. The result will be the cost per unit or \$6 for making each call.

Determine Manner of Distribution

The finding of the cost per unit opens the way for the establishment of standard unit costs and the control of the costs by comparing actual costs with such standards.

Step Number V is—"How Many Units of Measure Or Effort Are Required?" The cost per unit not only serves as a control device, but makes possible the finding of costs by manner of distribution. Thus, if it is desired to find how much it has cost to sell in a particular territory or route, it is necessary only to determine the number of sales transactions in that territory and multiply this number by the cost per unit for this function to determine the share of the functional cost applicable to that particular territory.

For example: Using the cost per unit for salesmen's calls of \$6, arrived at in the preceding ex-

ample, and assuming that 20 of the total number of 50 calls were made in the territory in question, then the number of calls (20) multiplied by the cost per unit of making each call (\$6) gives \$120, or the share of the total salesmen's call cost of \$300 applicable to the particular territory.

The finding of the cost per unit for any function reveals only the nature and extent of the cost of the functions. Extending these per unit costs according to manner of application of the distribution effort gives information which will aid in the direction of that effort.

Now let's get one thing straight. I'm not trying to make a book-



keeper or an accountant out of you. You don't have to balance a set of books to learn how to study your costs. You don't have to figure out to the exact penny what each salesman costs you each month. You are a business executive, shooting only at enough information to give you a reasonably close idea of what different functions of selling are costing you.

So you write down all the items of any size you can check. Suppose you get a figure that you know is probably 80% of what you spent in total for selling. Most of the time

that'll be close enough. Next you figure your costs for each little function according to the figures you have entered on the sheet of paper. When you add up the figures under each column, tack on about one-fourth to each one before you start using your measuring stick. You'll come out awfully close to the exact costs—plenty close enough. You are an important business man keeping tab on his costs; you let your bookkeeper worry about trial balances and things like that.

As a matter of fact, your bookkeeper or accountant will probably throw up his hands in horror at the way you split up the money you spent. He may tell you that your system is contrary to all principles of accounting. The answer to that is, let him keep the books according to the principles of accounting, since the income tax officials want it that way. But if his way of keeping books gave you the kind of business information you need, you wouldn't be reading this. You are an executive and you need some practical business information on your costs so that you can make more profits. You can get it the way I'm showing you—you can't get it from ordinary bookkeeping records.

Kinds of Costs You Ought To Know About

Now I described just how you would go about finding one kind of costs, and in considerable detail. You know there isn't time or space here to take up each item of your business and describe it in that much detail. So—here is a suggested list of things you can think

about, and then fix up sheets of paper and work them out to suit your own needs.

Any man in the distribution business (you're in three kinds, remember) needs to know something about the following kinds of costs:

1. *By sales areas.* Either salesmen's territories; business centers around and including the town limits; by counties; by routes; or by any other scheme of dividing up the country that makes sense in your case.

2. *By kinds of merchandise.* In your case, whether appliances or LP-Gas. On appliances, you'll want to know by types, such as refrigerators, hot water heaters, etc.

3. *By how the sale was made.* Whether by salesmen, truck driver, salesmen's phone calls, direct mail, stores, etc. Use your judgment; you know your business and what facts you need.

4. *By size of order.* You can see this ties in with dividing up costs among appliances, gas, class of customer, and sales area.

5. *By method of delivery.* Scheduled deliveries on regular routes, or special trips on request.

6. *By when you get paid.* Cash—short term credit—or long term credit.

Can You Afford to Figure Your Costs This Way?

We might as well get down to brass tacks again. After looking at that list, you've been asking yourself how in the world anyone could afford to go into all that kind of

cost figuring. So, here's the answer. If your business is big enough so that you have to use even the part time service of one bookkeeper, the answer is that you can afford it. In fact, you can't afford not to figure your costs that way.

You're not going to do a bookkeeping job. You're going to do what any executive does when he wants to find out something important about his business. You are the one who will decide just how many of these things are worth while to you. You are the one who will decide just how much detail you need. I doubt if you'll do any more work than you figure is absolutely necessary. After all, you're the boss.

Figure Steps One By One

So, like any sensible business executive, you'll try it out a little at a time. You'll work on just one function (the one that has you worried the most right now). You'll get that one function worked out so that you get enough information on costs to tell you where your money goes—why it goes—and whether it is bringing you back a profit.

After you've got one function worked out, so that with the least amount of work on your part you know exactly what everything costs you, you'll probably decide to work on another one. By that time you can probably turn the keeping up of the first job over to the bookkeeper, after showing him exactly how you want it done—and never mind about his principles of accounting. He may gripe, but you're

the boss and he'll do it your way—or else.

If you are like most business executives, one thing is pretty sure. You won't be satisfied until you know enough about your costs to stop the four most common profit leaks, and push the three most common profit boosters. Here are the profit leaks you will want to know about:

1. Selling unprofitable merchandise.
2. Selling to unprofitable customers.
3. Selling in unprofitable areas.
4. Paying unprofitable salesmen.

Here are the three most common profit boosters you will like to pin down:

1. What products are profitable to push hard.
2. What kind of customers and which areas are worth putting on a lot of sales effort.
3. What size orders are profitable to deliver: (a) on scheduled deliveries; (b) on special calls.

You operate on a margin be-

tween the cost of merchandise you buy and the price you get after you distribute it. For most items, most of the time, there isn't a thing you can do about your gross margin. You can't jack up your prices whenever you feel like it. You have to pay your supplier his price for the merchandise you buy—at least most of the time. So there you are—cost fixed on one side, selling price fixed on the other side. Your profit is what you can squeeze out of that fixed margin.

Most of the time, the one thing—and the only thing—that you can do anything about is your cost. Unless you can control your costs, you can't control your profits. You can't control your costs unless you understand them and know everything that is important—to you—about them.

Why stick in this LP-Gas business if you can't do something about controlling your profits? You're not in it for your health—you're in it to make profits. Why not start controlling your costs now and see how soon you'll hit the jackpot in profits.



"TO ALL ARCHITECTS"



W. L. ENGLISH

Butane CORPORATION

BUTANE GAS SERVICE AND HOUSEHOLD APPLIANCES

TO ALL ARCHITECTS AND CONTRACTORS:

August 1, 1948

Gentlemen:

Your business is concerned with houses and other buildings; ours is concerned with the supplying of LPG tanked gas and gas burning appliances for these houses and other buildings.

We have had many calls from architects and contractors for information concerning our gas service and the gas burning appliances which we carry.

It has been our intention for several years to make up a portfolio for architects and contractors. We have finally gotten around to arranging such a portfolio, and we are submitting for your consideration our first attempt in this direction.

We hope the information incorporated within this portfolio will be useful to you. If additional information is desired, do not hesitate to call upon us at any time.

Very truly yours,

William L. English
William L. English, Vice President

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AND CONTRACTORS"

A pioneer in bulk delivery, William L. English, reports to BUTANE-PROPANE News on a feature his company has used to excellent advantage in Arizona—a portfolio of information on LP-Gas and gas appliances for distribution to architects and contractors.

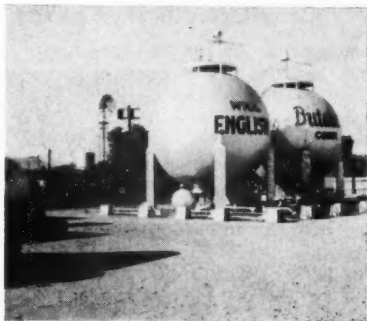
Mr. English is well-qualified to report news of the industry. He entered the LP-Gas field in 1936 as a salesman of Shellane bottles for the Shell Oil Co. Later, he started his own business—the William L. English Butane Corp., of Tucson and Lowell, Ariz. In 1948, this firm was merged with the Butane Corp., Phoenix, and became "company" instead of "corporation." Mr. English is presently vice president of Butane Corp. and general manager of the southern division (Lowell and Tucson).

By TED SHIELDS

BECAUSE they are the point of origin for new building construction, architects and builders will do a sales job for LP-Gas when given the facts about butane and propane.

Thus reasoned William L. English, vice president of Butane Corp., of Phoenix, and a veteran of 14 years in the liquefied petroleum gas business in Arizona. The result, after long delays in receiving manufacturers' specification sheets,

Wm. L. English Butane Co.
bulk storage facilities.





With an assist from a "Towmotor" lift, another consumer tank is loaded at the Wm. L. English Co. yard.

was a handsome, 60-page portfolio for the information of architects and contractors containing suggestions from the company, drawings and tables on the capacities and dimensions of Butane Corp. tanks, technical data, and complete descriptions of products by their manufacturers.

During his years of appliance, system, and gas sales, Mr. English received hundreds of calls from architects and contractors who wanted specific information about LP-Gases. Their questions included many requests for technical information—characteristics of LP-Gas as compared with natural gas, relative costs, insurance under-



WM. L. ENGLISH

writers' safety requirements in regard to distances of installations from buildings, tank sizes and gas appliance specifications.

In addition, the William L. English Butane Co. (a division of Butane Corp.) had frequently consulted with architects on central heating design—and understood that the LP-Gas dealer knows better than the designer how much room is necessary for initial installation of furnaces and water heaters, and how much additional space will be needed for servicing in later years.

The William L. English Butane Co. portfolio is the product of this background. It is divided into subjects of particular interest to builders:

1. Butane - propane cylindrical and spherical tank specifications.
2. Insurance underwriters' safety requirements.
3. General information about LP-Gas and Butane Corp. policies ("We do not install tanks in unsafe locations.")
4. Information concerning suspended, forced-air, unit heaters and their proper and improper application.
5. Specifications, information, and literature concerning furnaces and console heaters and their application.
6. Specifications, information, and literature concerning "Gas-steam" radiators and their application.
7. Specifications, information, and literature concerning wall heaters, unvented console heaters, unvented radiant heaters, and vented sheet iron box type gas heaters.

8. Information and literature concerning gas ranges and refrigerators.

9. Information, specifications, and literature concerning gas water heaters and proper types and sizing.

The company pulled no punches in its portfolio. It did a comprehensive, detailed job. It listed its recommendations by brand names and by models. It told which types of appliances were the most practical for different uses, which system installations were the safest and most efficient. It mentioned advantages and disadvantages of some types of heating equipment.

This straightforward approach to the description of LP-Gas and appliances, giving both the capabilities and limitations of both fuel and products, made a hit with the men to whom the portfolio was distributed. It accomplished a three-fold purpose: (1) It "sold" the rules for safe operation, which Mr. English considers its most important contribution; (2) it was an excellent public relations job for the industry in general and the Butane Corp. in particular; and (3) it gave a tangible, workable tool to men who must work with LP-Gas, indirectly, much of the time—men who could easily become unofficial salesmen for butane and propane throughout the years.

W. K. Warren Heads Group To Study LP-Gas Situation

Walter S. Hallanan, chairman of the National Petroleum Council, recently announced the appointment of

the committee on liquefied petroleum gas (1949-1950), in response to a request by the Department of the Interior for a study on the present liquefied petroleum gas situation, including the production and transportation of this fuel.

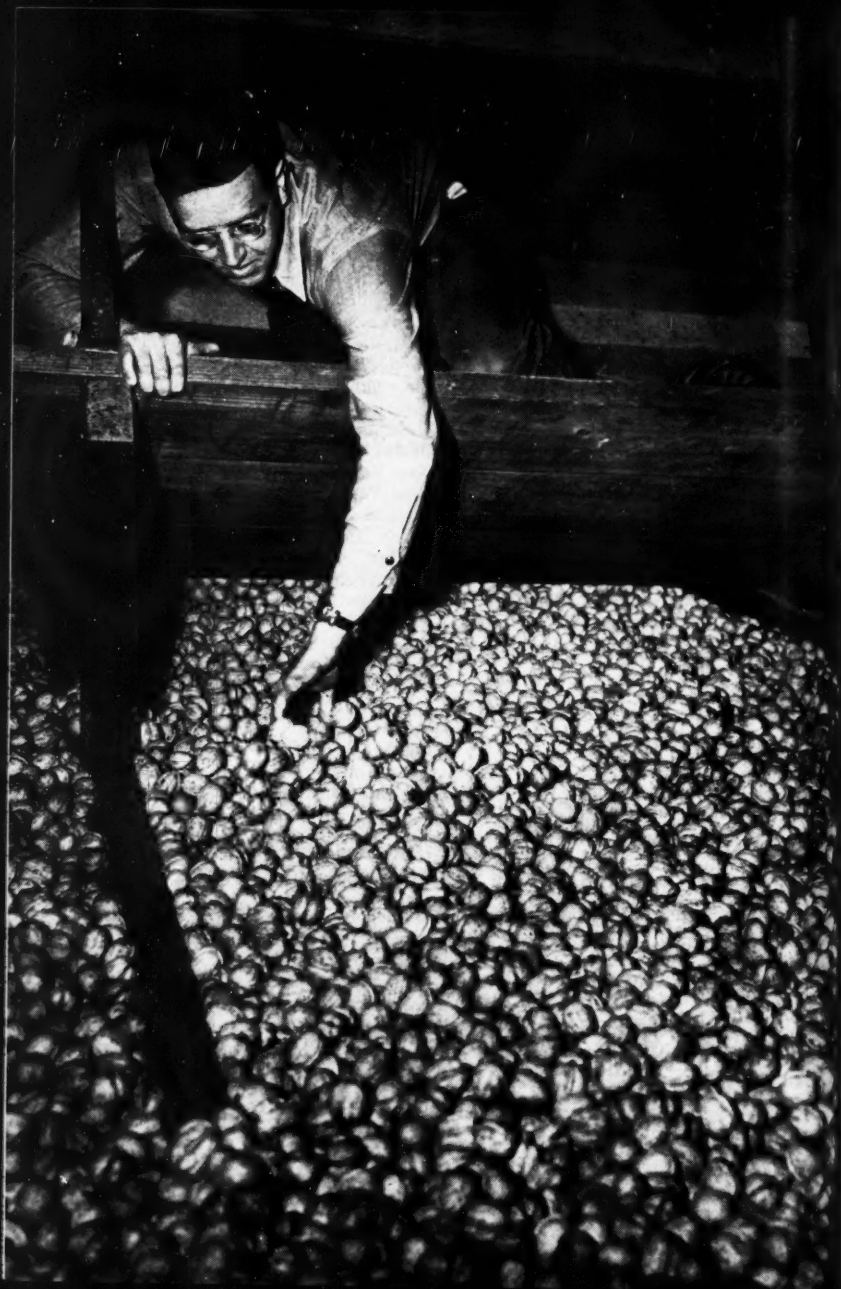
The committee's study will be submitted to the council with such recommendations as may be deemed appropriate. This report will supplement the one made to the council in 1948.

W. K. Warren, Warren Petroleum Corp., Tulsa, has been designated as chairman and the following as members: Fayette B. Dow, National Petroleum Assn., Washington, D. C.; C. F. Dowd, Tide Water Associated Oil Co., New York; J. W. Foley, The Texas Co., New York; J. H. Forrester, Stanolind Oil and Gas Co., Tulsa; B. C. Graves, Union Tank Car Co., Chicago; W. E. Huston, Republic Oil Refining Co., Pittsburgh; Arthur C. Kreutzer, Liquefied Petroleum Gas Assn., Inc., Chicago; John F. Lynch, LaGloria Corp., Corpus Christi, Tex.; Joseph Miller, Humble Oil and Refining Co., Houston; J. R. Parten, Woodley Petroleum Co., Houston; K. W. Rugh, Phillips Petroleum Co., Bartlesville, Oklahoma; A. R. Thomas, Shell Oil Co., Inc., New York; and J. W. Vaiden, Skelly Oil Co., Tulsa.

Esso Building New Plant For LP-Gas in Virginia

Esso Standard Oil Co. will build a new \$1,100,000 oil terminal and bottled gas plant on the James River, E. T. Lemmon, district manager, announces.

The \$80,000 gas plant will be built first, with the rest of the installation following in two or three years. When completed, the new bottled gas plant will handle distribution around Richmond and areas to the north and south.



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"Wet" Products Get Dry Treatment In LP-Gas Dehydration Systems

By JAMES JOSEPH

THE walnut industry—one of California's liveliest enterprises—has a major headache that plagues it every season. Big growers, like the Salinas Walnut Orchards (Salinas, Calif.), know that solving the worries of dehydration of 130 annual tons of fruits from its 7000 trees is a major determinant of profit or loss.

Green, wet walnuts require 40 hours drying time and correct temperature control. Too much dehydration—too much heat—turns walnuts rancid; 110° F is the maximum heat limit. Salinas Walnut Orchards dehydrates in 2¼ ton bins, drying approximately a binful daily. The dehydration season from mid-September until November 1, calls for plenty of LP-Gas, which is stored in the grower's 1000-gal. capacity tank. Within a single 10-day period the farm uses as many as 750 gallons.

Since 1937 it has had to change its burner, a BUS-8 Forster, suction-fanned by a turbine multi-blade unit, only once. Chad Frew, operator of the orchard, says his walnut operation uses about 3500 gallons of LP-Gas yearly. Five men are kept busy during season just working the dehydration bins.

LP-Gas is coming in for an increasing share of the dehydration business, especially in California and the Southern states where seasonal rainfall requires extensive drying.

Wet crop industries, like rice, long have found the need for dehydration. Cotton and walnuts have fallen into line. Now artificial drying processes, many of them present or potential LP-Gas users, extend into many industrial and agricultural fields.

One of the nation's top LP-Gas engineering firms, Ransome Co., Emeryville, Calif., has developed several types of burners geared to dehydration principles.

The heavy drain of liquid fuel in most dehydration plants caused Ransome to search for special burners and newer techniques—among these automatic controls. Dehydration calls for high velocity air streams past the burners—and in any case, for an operating pilot that can maintain stable flame,

Opposite Page: Chad Frew, operator of the Salinas Walnut Orchards, Salinas, Calif., sorts through a 2¼-ton bin of walnuts to test their dryness.

whether high velocity blowers are operating or not.

There are essentially two types of dehydration burners, and Ransome has made important modifications in both. There are the vapor burners and the liquid-type burners. In each, there are two types of heads: bushy flame and long flame. The bushy-type head for either vapor or liquid-type burners is also called a flare-head. The long-flamed head goes under another name also—torch-type. Both basic types of burners—vapor or liquid—and both models of heads, either bushy or long-flamed, have their special uses in dehydration plants.

The installation depends on the kind of flame wanted, the amount of heat desired, and the placement of the burner. The vapor-type

burner receives its gas from a tank situated some distance from the dehydration plant. It receives vapor from this tank, via a vaporizing unit of the conventional type and of various capacities.

The liquid-type burner is a self-vaporizing type. It does not use the conventional vaporizer, for the burner unit, itself, acts as a vaporizer. It is this special self-vaporizing burner upon which Ransome has worked most, and which it recommends in many cases for dehydration. There is no hard and fast rule as to which burner should be recommended for dehydration. But the self-vaporizing, liquid-type burner, either with bushy-type flame or using the longer, torch-type flame, has some special advantages in dehydration work.



With 1000-gal. storage tank in rear, a worker hauls odd lots of walnuts to the dehydrator at Salinas Walnut Orchards.

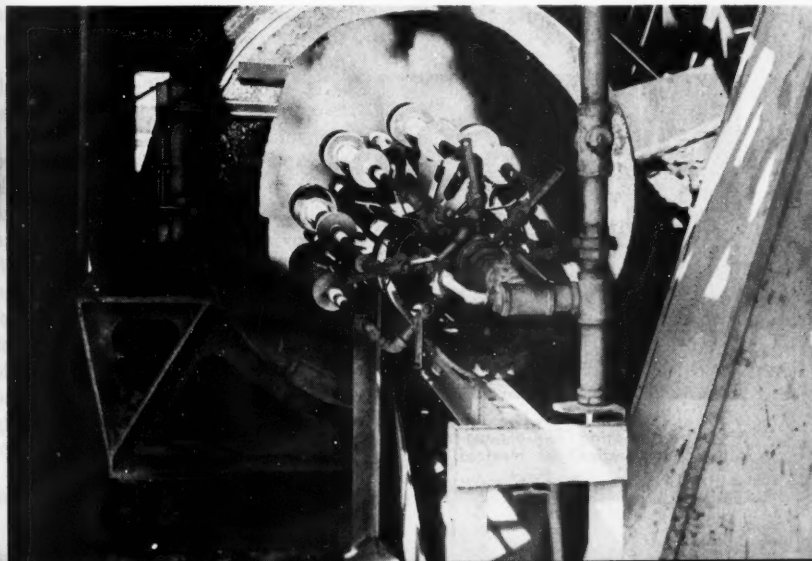
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Few points to temperature control housed next to the blower and BUS-8 Forster burner. Note that this is a suction type unit—obvious from lint on protector screen. This is a typical medium to large sized walnut installation.

Eight-burner torch type head vapor burners at gravel dehydration plant run by Ransome Co., Emeryville, California.



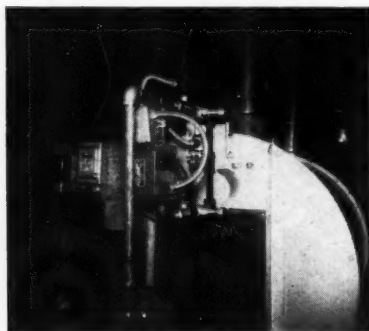
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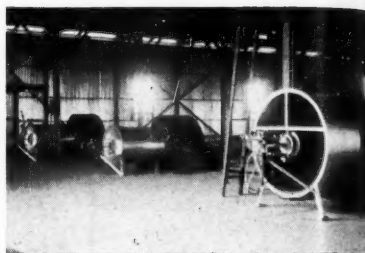
In the first place, the liquid-type, self-vaporizing burner needs no conventional vaporizer. By receiving liquid LP-Gas at the burner, itself, (not vapor) it eliminates the possibility of condensation in the fuel lines. This condensation, which tends toward irregular and undependable burner service, is caused by long fuel lines susceptible to low atmospheric temperatures and line pressures.

From the viewpoint of condensation-less lines, the self-vaporizing unit has its advantage. Now, we might take a glance at the method by which this burner accomplishes the self-vaporization of LP-Gas as used in many dehydration plants.

Ransome produces two capacity heads in self-vaporizing burners—one of 8-in. diameter, the other 12-in. Self-vaporizing burners provide self-generation, high capacity, eliminating the need for additional vaporizing equipment. The typical self-vaporizing (liquid type) burn-



Producers' Cotton Oil Co.'s gin installation (dehydration) at Hanford, Calif.



Three liquid-type burners in a rice dehydrator run by Vanderford, Gridley, Calif. This is a sacked-rice dehydration installation: rice is dried in the sack, not in bulk.

er has a built-in jacketed vaporizing unit, venturi, pilot, and manifold. Liquid butane inlets at the bottom of the jacket where it is vaporized by the conducted heat from the burner head. Vapor then passes through regulating valves to two sets of control solenoids, one set at maximum flame, the other at minimum. Some units have only one solenoid set at maximum. From these control solenoids, the vapor moves through a closed venturi.

It is this closed venturi which has special application in dehydration plants.

Explanation of this closed, sealed venturi is important. Older models used an open-ended venturi. The venturi in these older models was the chief source of primary air. But dehydration plant burner installations oftentimes call for burners installed directly in the path of high velocity fans. This would mean, in the conventional open-end type venturi, an abnormal supply of air—so much, in fact, that com-

bustion could not be supported. Any downstream orifice for primary air would be necessarily unstable because the air velocities in fan-type dehydration installations are enormous.

The newer model regulates the amount of primary air that the venturi receives through an upstream nipple which supplies air to the closed-end venturi. The upstream nipple, facing away from the origin of the fan velocity, solves the problem of unstable and fluctuating venturi primary air supply, simply because the upstream nipple takes in about the same amount of air and feeds this to the closed-end venturi, no matter how great the air supply. This is one of the developments which has helped in dehydration plant burner design.

The closed-end venturi is adapt-

able to any type of burner and to any type of LP-Gas supply. It can be used for either the self-vaporizing (liquid) or the vaporizing-type unit.

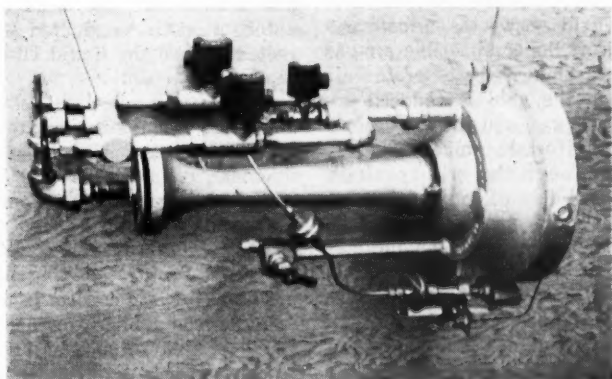
In choosing the type of burner head—either bushy-flame or torch-flame type for dehydration—three factors determine the kind to be selected.

1. The size of burner needed—amount of circulated air and the maximum temperature needed in that air stream.

2. Construction features of the dehydration plant itself.

3. Whether a vaporizing type or self-vaporizing type (liquid) burner will be used.

The size of the burner and the construction features of the particular dehydration unit is something for the individual installer



A 2-MMcf per hour burner with liquid manifold, self-vaporizing with automatic controls. A Ransome burner with two solenoids (on top), closed venturi.

to determine. There are so many variable factors, one for each dehydration plant, that no specific recommendations can be made in this article.

However, if the self-vaporizing burner has been selected because of its minimum line loss features through condensation, it might be well to describe further various features of this burner, to see how design has made it a flexible and reliable dehydration unit.

Has High Safety Attributes

It might be said here that the self-vaporizing burner, coupled with remote-control shutoff and turn-on mechanism, is one of the safest developments in the LP-Gas dehydration field.

If the husky-flame, flame-type head is used on a self-vaporizing unit in a high velocity air-stream, very likely the burner would be unstable. To remedy this, a cup-shaped grid serves as a baffle in the path of the combustible air-gas mixtures. Thus, velocity of the air stream to the grid is reduced, allowing the gas and air to become rather uniformly mixed before passing through the grid openings. The several jets of gas-air issuing from the grid produce individual plumes of flame which enable secondary air at the grid entrance to become effectively mixed with these jets, the plumes coalescing into a hot, uniform flame.

In the liquid-type, self-vaporizing burner, the upper ports in the grid have been sealed—so that the vapors do not overheat. Overheat-

ed vapors might injure the solenoids. But most important, the self-vaporizing unit works because liquid LP-Gas in the lower section of the head is heated, and vaporized—the vapor rising to the upper sections of the head and then through control solenoids. If the entire head were heated, not only would the LP-Gas (still in liquid state) be heated, but the rising gas in the upper portions would also be heated. This heating of the vapors wastes heat. Two methods have been devised which heat the gas in the bottom of the head, yet do not warm the vapor which has risen to the upper sections.

One method, described above, is to blank off some of the ports in the upper section of the head. A second method is to cut a notch in the upper section of the head—which acts as an insulation between the head and burner. With an air insulation space created in the upper sections of the head by the notch, heat is conducted and directed toward the liquid LP-Gas in the lower section.

Remote control operation of any dehydration unit—no matter what type burner is used—is of great importance, not only for safety, but for more uniform operation than can be obtained by manual controls at the burner. Safety is a big remote-control talking point.

The automatic control is an electronic device which provides 100% safety shutoff in case of pilot outage or current failure. Upon failure of either pilot or electric current (which powers the dehydration blower fans) the solenoid con-

trolling the gas supply to the main burner immediately closes and if normal service does not resume within 45 seconds the pilot solenoid closes also, giving 100% shutoff. Before the solenoids will reopen and permit gas to pass to the burners, a manual reset button must be pressed. Thus, an operator is always informed of a failure, and the hazards of premature gas flow is automatically precluded.

Here's how the modern protector relay works:

A vane-switch is mounted in the air stream. This vane is across the line to all gas supplies, for both the pilot and the main gas line. If the blower fan is not on, or fails during operation, the vane closes. Thus, if electric current operating the blower is shut off or fails, the vane automatically closes the gas lines feeding the burner. Since dehydration plants are usually closed—such as the tunnel type—safety devices which prevent collection of unburnt gas vapors are very important.

The vane opens the lines to both pilot and main gas burners when the fan is on. From a remote control station outside the burner installation, the operator pushes a "start-stop" button. This establishes the pilot in 45 seconds. An electric ignitor is used, which gives a more stable flame in high velocity air streams for various gas pressures. Once the pilot has been established, the solenoids allow the main gas to flow.

The automatic control system and control solenoids give uniform temperature, which in turn guar-

antees a consistent finished product. Too much heat, a fault common to manually operated dehydration units, (especially in the cotton industry) can dry out the cotton excessively, causing loss of weight, and subsequent loss of value. Too much heat can also scorch cotton, down grading its quality.

LP-Gas Best for Cotton

In cotton alone, LP-Gas has special advantage. The old-fashioned oil burners sometimes used as dehydration mediums, couldn't be fired directly into the plant; the dirt from oil fires ruined cotton. Instead, oil dehydration plants used a steam-plant system. Cotton was merely passed over a series of steam pipes. However, heat loss in indirectly fired steam systems is great; its efficiency worse; long steam pipes lose heat, and heat from steam pipes has difficulty in penetrating cotton uniformly.

LP-Gas-fired burners in cotton dehydration plants can be regulated according to the cotton being processed. Wet cotton needs more heat, obviously; drier cotton, less. By regulating burner output firing directly into cotton dehydration blowers, a uniform output is achieved. Cotton producers also say that LP-Gas heat has a desirable bleaching effect.

All in all, the automatic control system, the self-vaporizing burner, with either type of head—torch or flame-type—is paving the way toward a new era for safety and control in dehydration installations, whether they are walnuts, cotton, rice, or fruit.

Safe Handling of LP-Gases

Properties

Static Electricity

Transfer

By E. O. MATTOCKS

Technical Representative, Chemical Engineering Department
Phillips Petroleum Co., Bartlesville, Okla.

In Two Parts—Part 1

THE safety requirements for handling liquefied petroleum gases,* are based to a great extent on a general understanding of the basic properties of the material. In this presentation a brief review of the most important characteristics of this product will be given together with a more detailed discussion of two factors which are not always fully understood, namely: (a) the use of air to transfer liquefied petroleum gas from one location to another and, (b) the need for protection against static charges.

Liquefied petroleum gases are referred to as LP-Gas or LPG, generally. The term is a general des-

ignation of a mixture of several hydrocarbons and very seldom, if ever, indicating a single compound. While LP-Gas is frequently referred to as propane or butane, very seldom if ever does this designation actually mean the single hydrocarbon named, but rather reference is made to a group of hydrocarbons.

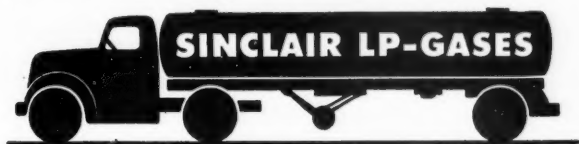
Liquefied petroleum gases come from two major sources, namely: natural sources which include natural gasoline plants and cycling plants and from refinery sources. As the name indicates the material produced from the natural sources is separated from the natural gas and oil recovered from the ground. In the case of refinery source material liquefied petroleum gases are obtained as a result of the refining of crude oil. The major difference between the hydrocarbons existing in natural source and refinery source materials is presented in Figure 1. Methane and ethane are the major constituents of commercial natural gas while pentanes and heavier are the major constituents of gasoline. The hydrocarbons that exist between commercial natural gas and gasoline while existing as a gas at normal atmospheric tem-



E. O. MATTOCKS

Presented Before the 37th National Safety
Council at Chicago, Oct. 26, 1949

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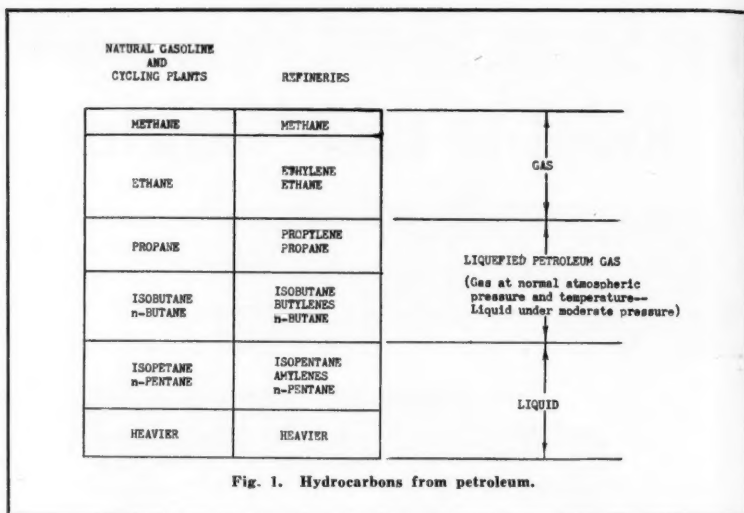
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peratures and pressures can be liquefied by application of moderate pressures. These hydrocarbons are known as liquefied petroleum gases. In commercial products there is present generally small amounts of one or more of the following: ethane, ethylene, normal pentanes, isopentane, and amylenes.

Properties of LP-Gas

One of the most important factors to remember about liquefied petroleum gas is that the pressure of the product is directly dependent upon its temperature. This relationship is shown in Figure 2, where the vapor pressure corresponding to various temperatures for the various pure hydrocarbons existing in liquefied petroleum

gases is plotted. The pressures given on this plot are in pounds per square inch absolute, so it is necessary to subtract 15 pounds to obtain gauge pressure. For example, propane at a temperature of 25 F would have a corresponding vapor pressure of 46 pounds per square inch gauge (psig). If this product was heated to 100 F it would have a vapor pressure of 174 psig.

In addition to increasing the vapor pressure with temperature there is an increase in the volume of liquid with increasing temperature. In Figure 3 is shown the change in liquid specific volume of pure LP-Gases with temperatures. For example, in the case of propane at 25 F every pound of liquid would occupy 0.03 cubic feet. If this prod-

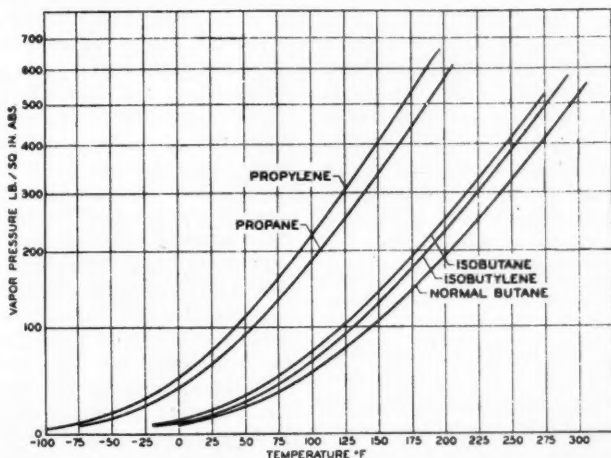
uct is heated to 100 F the liquid will occupy a volume of 0.034 cubic feet per pound. This represents an increase in the liquid volume of 13.3 per cent. Obviously, provision must be made in filling an LP-Gas container so as to provide sufficient space for this expansion with increase in temperature.

Frequently reference is made to the greater explosibility or flammability of LP-Gas as compared to other commercial gases. In Table 1 is given the limits of flammability in air of various gases including average commercial gases. The lower limit is defined as the minimum percentage of gas in air which will support combustion

while the higher limit is defined as the maximum per cent of gas in air which will support combustion.

It will be noted in Table 1 that the minimum lower limit for any gas is 1.4 per cent for benzene. The next lower limit is 1.7 per cent which is for butylenes, some of the hydrocarbons found in LP-Gas from refinery sources. The maximum higher limit is 74.2 per cent which is for both carbon monoxide and hydrogen, major components in carburetted water gas which is distributed extensively by utilities. On the other hand, the maximum higher limit for any hydrocarbon existing in LP-Gas is 11.1 per cent which is for propylene. The maxi-

Fig. 2 VAPOR PRESSURE OF PURE LIQUEFIED PETROLEUM GASES



**TABLE I. LIMITS OF FLAMMABILITY
IN AIR (4)**

Gas	Per Cent Gas in Air	
	Lower Limit	Higher Limit
Methane	5.00	15.00
Ethylene	2.75	28.00
Ethane	3.22	12.45
Propylene	2.00	11.10
Propane	2.37	9.50
Butylenes	1.70	9.00
Isobutane	1.80	8.44
n-Butane	1.86	8.41
Natural Gas	4.80	14.60
Coal Gas	5.60	30.8
Carburetted Water Gas	6.40	37.70
Carbon Monoxide	12.50	74.20
Hydrogen	4.00	74.20
Benzene	1.41	6.75

imum spread between the lower and higher limit for any LP-Gas is 9.1 per cent gas in air which is for propylene.

In the case of natural gas the lower limit is 4.8 per cent of gas in air and the higher limit is 14.6 per cent of gas in air which represents a spread of 9.8 per cent. Similarly the lower limit for carburetted water gas is 6.4 per cent gas in air and the higher limit is 37.7 per cent gas in air which represents the spread of 31.3 per cent.

From the above data it is seen that the limits of flammability for LP-Gas are less than for other commercial fuel gases. It is true, however, that the lower limit for LP-Gas may be lower in some cases than for other commercial fuel gases. This means that it may require less LP-Gas in air to reach the flammable range than for some commercial fuel gases.

Frequently reference to explosibility limit or range of a gas means the region where the maximum rate of flame propagation occurs. In Figure 4 is shown a graph of flame speeds for several gases. The first curve shown is for pentane which is a major constituent of motor gasoline. The second and third are respectively butane and propane. It will be noted that the maximum speed for these three hydrocarbons is approximately the same. Likewise, the range in per cent of gas in air where the rate of propagation is the greatest is not very large, being in the order of approximately a $\frac{1}{2}$ of 1 per cent.

On the other hand, the fourth curve represents methane, the major constituent of natural gas. The maximum speed for this gas is slightly lower than that for the LP-Gas and has a range considerably wider at the maximum rate of burning than for LP-Gases.

The last curve shows a mixture of 25 per cent water gases and 75 per cent coal gas. This mixture has a rate of burning of approximately twice that for the LP-Gas. Likewise, the range of percentage of gas in air at this maximum rate of speed is greater than for any of the other gases shown.

From the data presented on the rate of flame propagation it is seen that LP-Gas burns at a speed slightly in excess of that of natural gas and less than the maximum speed of burning for manufactured gas. Likewise, the range of gas-air mixtures at maximum rate of burning is less for LP-Gas than for natural or manufactured gas. It would

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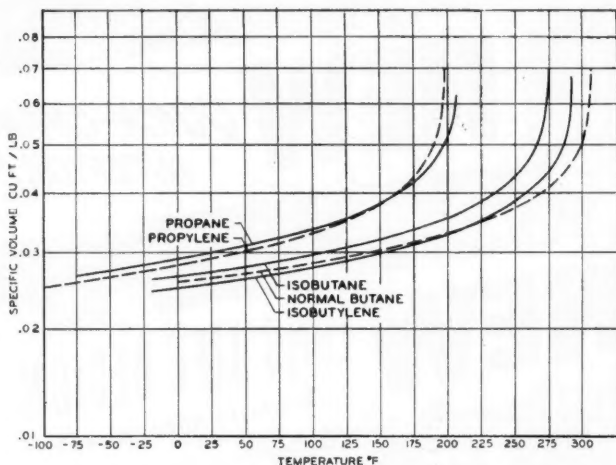
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Fig 3 LIQUID SPECIFIC VOLUMES OF
PURE LIQUEFIED PETROLEUM GASES



appear, therefore, from a combustibility standpoint LP-Gas is similar to other commercial gases and certainly does not exhibit any tendency to be more hazardous. In fact, the data indicates that LP-Gas might be considered to be less hazardous than most commercial gases.

Laboratories Conducted Experiments

Experiments were conducted by the Factory Mutual Laboratories (1) where various gases were premixed with the proper proportion of air and placed in various size

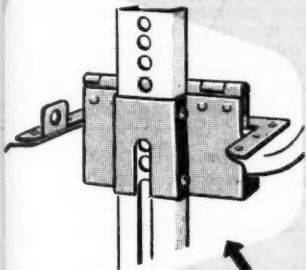
pipes. The mixture was ignited and the resulting pressures measured. Under certain conditions detonation

TABLE II. BOILING POINTS (4)

Gas	Boiling Point—F
Methane	-258.9
Ethylene	-154.9
Ethane	-128.2
Propylene	-53.8
Propane	-43.7
Isobutylene	+ 19.2
Isobutane	+ 10.9
n-Butane	+ 31.1
Carbon Monoxide	-313.6
Hydrogen	-422.9

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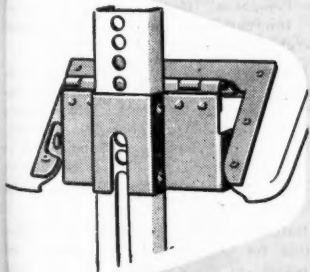


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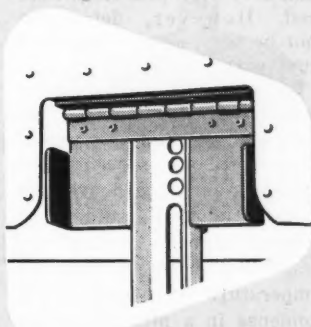
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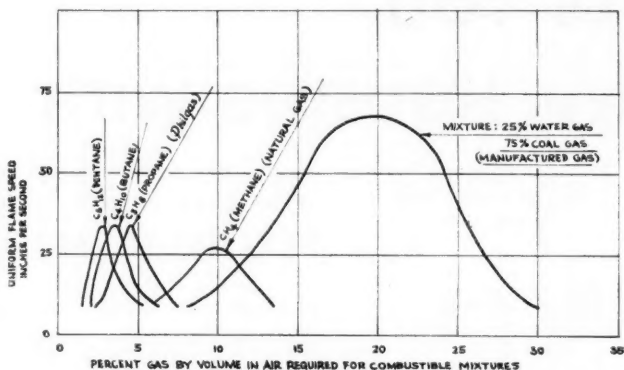


Fig. 4. Flame speeds and combustible mixtures.

occurred with commercial utility gases and very high pressures were measured. However, detonation could not be secured with liquefied petroleum gases.

The boiling point of a number of gases is shown in Table II. The significance of the boiling point is that at atmospheric pressure the product exists as a gas above this temperature and as a liquid below this temperature. These data are very important when considering the temperature at which a gas may condense in a pipe line when distributing the product from one point to another.

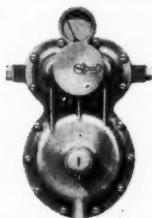
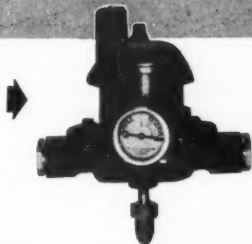
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Part 2 Will Appear Next Month

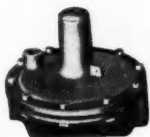
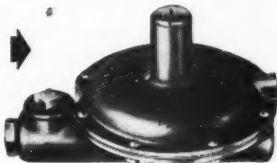
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Proves Heating with Propane Feasible in Alberta

IN a country where most types of fuel—coal, oil, wood, and natural gas—are comparatively in good supply, Canadian Propane Ltd. boasts an enviable record. For, in central Alberta, this two-year-old company counts upon the heating load as one of its important sources of revenue.

Because it is a valuable load, Canadian Propane's policy is to watch the heating operation carefully. Only homes of proper construction and with adequate insulation are offered the heating service, and careful inspections and double-checks are the rule. This policy, according to Albert V. Youell, secretary-treasurer, has paid off in control by the company of all the propane consumption for heating in the territory.

Canadian Propane was organized in the summer of 1947, and had completed its bulk plant, bottling house, and other buildings, and received its first tankcar of propane by January, 1948. The company is located in Camrose, central Alberta; its equipment includes a 30,000-gal. storage

tank, a 1200-gal. propane delivery truck, a service truck, heavy winch truck, and two salesmen's cars, in addition to the buildings (including a warehouse and display building) mentioned above.

Introducing propane into Alberta was a real pioneering job, according to Mr. Youell. Canadian Propane has, however, through careful attention to customer record-keeping and a determination to keep appliance and installation services at a high standard, expanded its operation to the point where it now has 62 dealers for its product in the towns and villages surrounding the Camrose area. Current plans include two more bulk plants to be built in Alberta, which will be in operation next year, and an appliance display store in downtown Camrose.

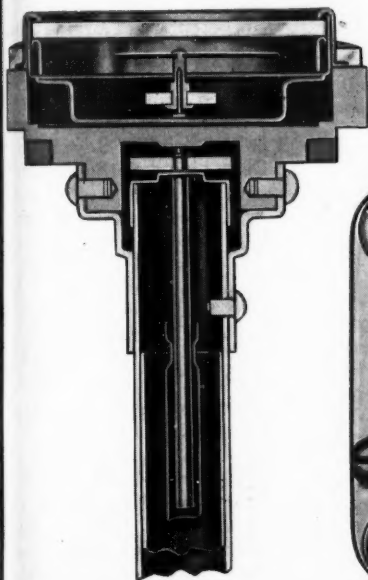
Canadian Propane at present maintains a staff of six employees, including Gordon McLean, manager; Clinton R. Johnson, assistant manager; Mr. Youell, Almon D. Scott, service manager, and two salesmen, Walderman Terry and Harold A. Stidolph.

The Camrose, Alberta, bulk plant of Canadian Propane.



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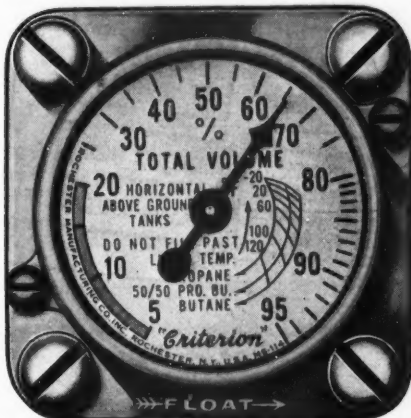
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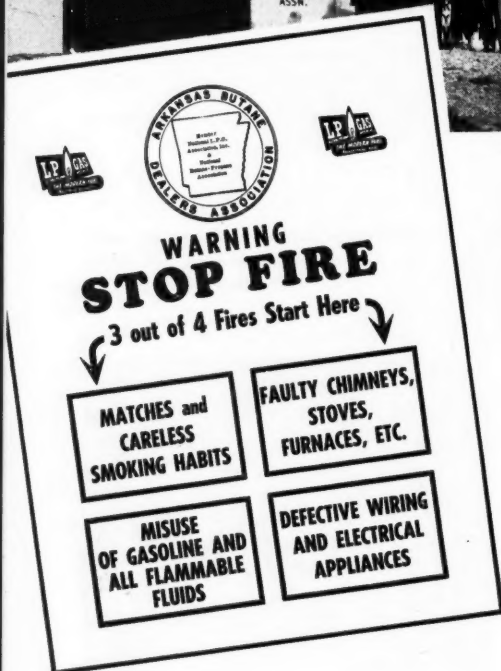
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Save LIVES &
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The circular distributed at the show by the Arkansas Butane Dealers Assn. was a virtual copy of the fire rules published by the National Fire Protection Assn. Thousands of visitors to the show received copies.

Representatives of the co-operating agencies that made the Arkansas fire prevention show possible are pictured above. They are (left to right): Ray Elrod, Dixie Liquid Fertilizer Co.; Carl Smalley, NFPA and Arkansas Inspection & Rating Bureau; Amos David, David Sales & Service Co. (Caraway, Ark.); Mr. & Mrs. Duke Sweeney, Beals Creative Printers; Cy Carney, president, ABDA; Marion Castleberry, ABDA office secretary; Mrs. Ray Biggadike, ABDA office assistant; John Knox Smith, LPGA, and A. W. Porter, ABDA executive secretary. All acted as hosts in the exhibit tents. Note the torch flare at right (top).

Demonstrates Safety to Underwriters

A stronger and closer relation with fire prevention organizations and with the fire insurance industry has long been the aim of the Arkansas Butane Dealers Assn.

The association got a fine chance to move in that direction recently, in the Arkansas state livestock show, which was held in Little Rock, Oct. 3-12.

At the invitation of the Arkansas Fire Protection Assn., ABDA took an active part in the former group's fire prevention show, which drew 20,000 spectators during the livestock exhibit. In return for outside display torch-flares (see cut), the butane association was given three large spaces for exhibit within the huge fire prevention tent at the show.

Most important feature of the co-operative fire prevention exhibit, which enjoyed support of the National Fire Protection Assn., the National Board of Fire Underwriters, Underwriter's Laboratories, and general agents of insurance companies operating within the state, was, in the minds of John Knox Smith (LPGA) and Cy Carney and Amos David (president and director of ABDA, respectively), in its value as a public relations program.

Thousands of circulars were distributed and hundreds of personal interviews with spectators did an effective

By A. W. PORTER

Executive Secretary, Arkansas
Butane Dealers Assn., Little Rock



A. W. PORTER

job of telling the visitors to the exhibit just what LP-Gas dealers in Arkansas are doing about fire prevention and that they are sincerely in search of new methods and equipment to aid them in this regard.

In the show itself, there was a wide range of products, specifically designed for fire prevention. Among exhibitors were the Fire Appliance & Supply Co., Independent Protection Co., Arkansas Power & Light Co., Greater Little Rock Chamber of Commerce, Little Rock fire department, Automatic Sprinkler systems, and the Keep Arkansas Green Assn.

State safety officials, Mr. Smith (who is the LPGA safety engineer), and LP-Gas company representatives, joined Carl S. Smalley, executive secretary of NFPA, in welcoming visitors to the fire prevention exhibit. Mr. Smalley has been prominent in Arkansas fire prevention work for several years. He has worked through local fire departments and has participated in fire prevention meetings organized by LP-Gas dealers. He has conducted numerous public demonstrations of prevention methods, at which attendance has been as high as 3500.

The circulars (see cut) distributed under ABDA auspices at the livestock show were furnished by B. T. Harris, of Butane Wholesale Gas Co., who also set up the torch flares that were used.



LOOKING FOR ANSWERS TO INSURANCE PROBLEMS?

By PAUL W. HOWER, JR.

Charles, Ryan & Rivers, Inc., Los Angeles

Illustrations by the author

NOT long ago the LP-Gas industry was a very young and adventure-some business—and it became quite a problem child insurancewise. Today it is a well established enterprise with an almost unlimited future—and it possesses a wealth of its own.

If it lacks any one thing that would forestall its progress, it's not unlikely that it would be cooperation—the sort of selfish jealousy that prevents it from presenting a united front towards the solution of any of its many problems. If you find this a harsh viewpoint suppose we study the problem for a moment.

Regardless of how you feel about insurance, remember that you, and only you, can provide the experience upon which insurance is based. Experience takes time, so we'll go back a

few years to the period when there was no particular problem. This was the time when insurance rates were low—at least unobtrusive. As losses increased the loss ratio represented an increasingly unprofitable experience.

Insurers met this by reducing first the amount of liability they would assume, then by excluding the major hazard of fire and explosion and finally, when forced to do so, by refusing to write insurance on LP-Gas dealers under any but the most favorable circumstances.

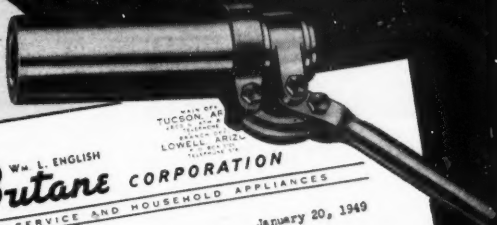
Concurrently, the adverse experience was demanding rate increases and these appeared regularly. It is apparent then that the current rates reflect the period when the LP-Gas industry was making its poorest showing, when equipment was war-born and inexperienced dealers were abundant.

While it is a mistake to presume companies will now reduce the rates, feeling that "the worst is over," it is encouraging to observe many indications that the insurance "depres-

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Wm. L. ENGLISH

Butane CORPORATION
GAS SERVICE AND HOUSEHOLD APPLIANCES

January 20, 1949

Selwyn-Landers Co.
4709 E. Washington Blvd.
Los Angeles 22, California

Gentlemen:

We want you to know how pleased we are with your PW-200 Safety Hose Nozzle for the filling of customer Butane-Propane tanks.

We feel that there are several advantages to the use of this filling attachment, as follows:

1. It is faster for the delivery man and easier to connect than the old style Acme Thread Connector.
2. In case of filler check valves sticking, the delivery man does not have to take the PW-200 off of the adapter, as he will know before taking it off that he has a sticking check valve. He can, therefore, put it back on and push the lever and disconnect his hose, until he has an opportunity to get service trucks and bring the tank in for repair.
3. The PW-200 is a safer connection in that very little gas escapes when the hose line is disconnected.

We have standardized on this filler hose nozzle on our tank trucks and also on our filling station locations.

Probably the greatest advantage of this device is safety, but the ease of operation and the saving of time is also a great advantage. Enclosed you will find a picture of one of our new trucks, which is equipped with your PW-200 Nozzle.

Very truly yours,

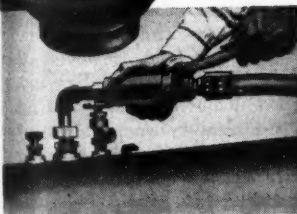
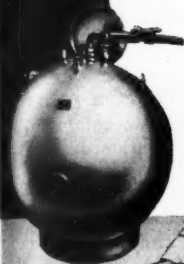
William L. English
William L. English, Vice-President

"Butane begins where the Gas Meter ends"

5-1

SELWYN-LANDERS COMPANY

4709 E. Washington Blvd., Los Angeles 22, Calif.





PAUL HOWER, JR.

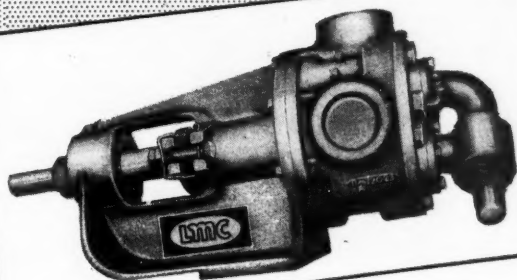
sion" is disappearing. What this means to you individually may be quite different from what it does to your neighbor—or to a dealer in another part of the country. It should mean that the road which your industry has traveled insurancewise is now easier to travel and that this is the time to make the most of the improved condition. The advantage which you should now exploit is to be found in the most worthwhile insurance program. This program should offer you, in the order of their importance to you:

1. Adequate Coverage. The nature of your product exposes you to serious loss, quite apt to exceed your assets. If you are a good businessman you recognize your obligation to the organization you have built and to your employees. You also possess a compelling obligation to your consumer—to protect him against the hazards of your product and to do so without gambling with your future. The liberal damage judgments being awarded today are tangible evidence that the risk is too great to be ignored and that adequate liability insurance is an absolute necessity, regardless of the cost.

2. Safety and Engineering. Your industry has made commendable progress in safety consciousness and in equipment since V-J Day. These have combined to balance the frequency of accidents with the increased number of distributors and have made your industry much more attractive to the insurer. Any insurance program that will be of lasting benefit to you must work with you to preserve the necessary margin of safety—allowing you more time to devote to business.

An insurance engineer must have a thorough knowledge of your industry, its many problems and its personalities in addition to the methods of handling and the characteristics of LP-Gas. He must also know insurance. He is not a substitute for the professional engineer whose services are merchantable. His value to you is measured by his ability to detect for you the hazards which he knows from experience produce accidents and to select from the industry the dealer who is qualified for insurance. Only by this selection can any insurance program succeed on the basis of sound underwriting or be expected to produce a loss ratio that is representative of the insurable portion of the industry.

3. Reasonable Cost. Rates are based on loss ratios and these require a long period of time to establish. As we have already mentioned, the LP-Gas industry is still very young insurancewise, and since the earlier years produced many very serious losses the rates are understandably high. Bear in mind, however, that the rates represent the entire industry, good dealer and bad, during a period when safety wasn't always the most important factor and equipment was neither always properly made nor installed. It should be obvious



INTRODUCES NEW L. P. G. TRUCK PUMP

Attention: L. P. G. Dealers

The pumping of Liquified Petroleum Gas is not a romantic thing even if everything goes well, but it can be a heartache when trouble develops.

The LMC (Lubbock Machine Company) pump was not designed with the idea of it ever becoming a world beater, but it is a good pump that will do your pumping job economically because it doesn't cost too much and it is economical to repair.

The extra close tolerances give you good volumes, high pressure and long life. The chrome-plated shaft gives you good packing performance.

Our one-day rebuilding service saves you money and customers.

Give one of these LMC pumps a try and you, like hundreds of others, will agree that it is the answer to your Liquified Petroleum Gas pumping problems.

Sincerely,

T. A. Rogers, President
Lubbock Machine Co., Inc.

Guarantee
The Lubbock Machine Co., Inc. hereby
agrees to replace or repair any LMC
Truck pump that has been properly
used and which the purchaser feels
has not given satisfactory service.

LUBBOCK MACHINE CO., INC.
Box 1138 Ph. 6006
Lubbock, Texas

Oh, to have the insurance agent on the block for just once, gloats the dealer,



to any dealer that if he supports a worth while program he will be in a group that can be expected to produce a loss ratio reflecting every advantage possible. That program today may not necessarily be the least expensive but any additional cost now may be an investment which will pay welcome dividends by reduced rates later on. If you feel that this

support is for your neighbor and not for you, remember that no program is going to succeed without adequate support—and the more support the sooner the result.

It becomes apparent that the LP-Gas industry has everything to gain and very little to lose if it cooperates with the insurance fraternity on its most promising program.

Mississippi Conference Considers Weights, Measures

Methods of measuring LP-Gas were included in the agenda of the Southern Weights and Measures Conference which met in Biloxi, Miss., early in November.

Among those attending was W. S. Lander, president of Rulane Gas Co., Charlotte, N. C.

During the fall, there were various conferences between representatives of the North Carolina Liquefied Petroleum Gas Assn. and the North Carolina authorities.

A proposed Regulation No. 25 for North Carolina was submitted. Several changes were made in this pro-

posed regulation, but the final regulation has not been made public.

AGA Names New President

At the Oct. 17-20 annual convention of the American Gas Assn. in Chicago the following officers were elected for 1949-1950:

President: Hugh H. Cuthrell, The Brooklyn Union Gas Co., Brooklyn, N. Y.

First vice president: D. A. Huley, Lone Star Gas Co., Dallas.

Second vice president: George F. Mitchell, The Peoples Gas Light & Coke Co., Chicago.

Treasurer: Edward F. Barrett, Long Island Lighting Co., Mineola, N. Y.

LP-GAS FITTINGS

There's a Complete Line From Which To Choose The Correct Fittings For Every Installation

The photograph shows but a few of the more than one hundred miscellaneous LP-Gas fittings in the complete RegO line.

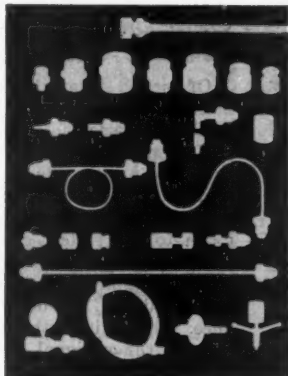
Progressive, safety-minded distributors, realizing that it is important to always use the correct type of fitting, specify RegO to meet all of their requirements—whether in large quantities for standard installations or in small lots for special installations and replacements.

All materials used in RegO LP-Gas fittings are carefully inspected, with thread specifications and tolerances rigidly controlled to assure trouble-free, long-life installations.

**Don't Gamble When You Install a Fitting—
Make Sure That It's Right For The Job!**

How Many of These Standard REGO Fittings Can You Identify?

1 Expansion Coil • 2 Adapters (male pipe and male acme threads) • 3 Coupling (male acme and male acme threads) • 4 Adapters (female pipe and male acme threads) • 5 POL Swivel Hose Coupling • 6 POL Swivel Coupling (with 1/4" male pipe threads) • 7 POL Swivel Coupling (with 90° elbow) • 8 45° Elbow • 9 Adapter (female POL and female pipe threads) • 10 Loop Pigtail • 11 "S" Pigtail • 12 POL Plug • 13 POL Cap • 14 Acme Plug • 15 Swivel Adapter (female POL and female No. 968 threads) • 16 Swivel Adapter (male POL and male No. 968 threads) • 17 Straight Pigtail • 18 Gauge Adapter • 19 Low Pressure Hose Assembly • 20 Cylinder Filling Connector • 21 Filling Hose Adapter for Cash and Carry Cylinders



*Reg. U. S. Pat. Off.

REGO
LP GAS EQUIPMENT

Created by
Ramon Bastian-Blessing
GAS EQUIPMENT CO.
Dallas, Texas
GAS EQUIPMENT SUPPLY CO.
Atlanta, Ga.
WESTERN GAS EQUIPMENT CO.
San Francisco, Calif.
A. C. FINE, S. A., Mexico, D. F.
EMPIRE BRASS WORKS CO., LTD.
London, Canada

The BASTIAN-BLESSING Co.

4301 W. Peterson Ave., Chicago 30, Illinois

PIONEER AND LEADER IN THE
DESIGN AND MANUFACTURE OF
PRECISION EQUIPMENT FOR USING
AND CONTROLLING LP-GASES

ASSOCIATIONS



G. M. McCLELLAN

G. McClellan Named President Kansas LP-Gas Assn.

Of prime interest at the Nov. 7 meeting of the Kansas LP-Gas Assn. in Wichita was the election of George McClellan to the presidency and the decision to join the "State Association Integration Plan" of the LPGA, and "accordingly support said program to the fullest extent."

At the luncheon meeting, Arthur Kreutzer, managing director, LPGA, addressed the 120 dealers in attendance. He outlined the various activities of the national association, emphasizing the importance of carrying out a national program embodying promotion and protection for the welfare of the industry.

Information on the nationwide publicity and advertising program, to be inaugurated in 1950, was presented together with details of the state integration program which will bring about a closer unity between state groups and the LPGA.

Professor G. H. Larson, agricultural engineer from Kansas State Agricultural College, reported on the results of an industry survey among users that he is now conducting. However, all questionnaires have not been received. When the study is completed, it will be available to dealers.

In addition to Mr. McClellan, the following officers were elected: A. C. Ferrell, Atchison, vice president, and Sam Boothe, Wichita, secretary.

Directors include: A. C. Ferrell, F. N. Havens, G. M. McClellan, Frank Groves, Rex Wheeler, Si Darling, Jim Pratt, W. B. Hettie, and Sam Boothe.

At the Friendship Party, which followed the afternoon session, R. H. Mahnke, who has served the Kansas Association as executive vice presi-



F. N. HAVENS



GLEN HUMBURG

dent for the last 3½ years, was presented a gold wrist watch by the board of directors. Mr. Mahnke has accepted a position on the national LPGA staff to serve as assistant director.

F. N. Havens, retiring president of the association, was unable to attend the meeting due to illness. Glen Humberg, immediate past vice president, acted as chairman during the meeting.

More Industry Groups Join National Promotion Program

The Natural Gasoline Assn. of America and Gas Appliance Manufacturers Assn. have voted their approval and support of the nation-wide promotional program for the LP-Gas industry, according to an announcement from John C. Pankow, chairman for the National Committee



LP-Gas industry leaders representing all branches of the business helped "kick off" national promotion at meeting in Chicago Nov. 3-4. Left to right: Lyle Harvey; A. B. Cameron; M. L. Trotter (holding ball), vice chairman of national committee for LP-Gas promotion; John C. Pankow (kicking), committee chairman; Ernest Fannin; Howard E. Felt; J. Richard Verkamp; and Ellsworth L. Mills. Committee expects to raise between \$500,000 to \$1,000,000 for first year of advertising, publicity, employe training and public relations program.

Automatic
REZNOR
gas fired unit heaters



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 FLOOR TYPE

TIME TO PLAN IS "NOW"

- Sell Reznor Heaters now.
- Easier to install.
- Avoid wintertime rush and delays.
- Make extra summertime profit.
- Reznors give summer ventilation from big, quiet fans.
- More Reznors in use than any other similar type.
- Write for Catalog U-45.

4 UNION ST. • MERCER, PENNA.

for LP-Gas Promotion. The plan was instigated by the Liquefied Petroleum Gas Assn. board of directors, meeting in Denver in September.

The committee, consisting of prominent men in every phase of the industry, met in Chicago Nov. 3-4 to draft plans for the campaign which will cover national advertising and publicity campaigns, employe training and special public relations activities.

Other associations which are expected to support the plan are, in addition to the three mentioned above: National Butane-Propane Assn. and California Natural Gasoline Assn.

New Jersey

A total of 150 persons attended the meeting of the New Jersey Liquefied Petroleum Gas Assn. at the Hotel Berkeley-Carteret, Asbury Park, Oct. 26th.



E. A. KEIBLE



W. HOAGLAND

At this meeting the association tried with great success the idea of an all-afternoon and evening gathering, with top-notch speakers and an excellent program.

The meeting brought out a large number from the industry in southern New Jersey, and this was gratifying, since it had been remarked at previous meetings that more attendance



Newly elected officers of Kentucky LP-Gas Assn. (left to right, first row): C. L. Shaffer, vice president; Frances L. Holliday, president; C. G. Keesy, executive secretary-treasurer. Second row (board of directors): J. M. F. Hays, R. B. Green, R. B. Jones, Elmer B. Roll, Raymond Rains, R. N. Short, S. R. Harvey.

from that part of the state was desired.

Edward A. Keible, president of the association, introduced Walter Hoagland, of Fisher Governor Co., as chairman of the meeting.

Following registration in the "Palm Court" of the hotel, the association members attended a luncheon-banquet in the "Crystal Terrace," addressed by Clayton Rand, nationally known after-dinner speaker from Gulfport, Miss.

Asking, "Is London Bridge Falling Down?" Mr. Rand took up the question of the money being sent overseas, and other topics.

Ralph Engstrom, of The Bastian-Blessing Co., gave an important talk on "The Correlation of LP-Gas Regulators and House Piping."

Arthur Kreutzer, managing director of the national staff of LPGA, took up New Jersey legislative matters and related them to the national picture.

Through the courtesy of Caloric Stove Co., an old fashioned cooking school was held at the end of the afternoon. The demonstration held the crowd spellbound for two and a half hours. Those in the rear were standing on their chairs to see and hear.

Last but not least, there were cock-tails at five o'clock, through the courtesy of associate members, suppliers and manufacturers.

Then came dinner in the "Crystal Terrace," with a girl accordionist keeping things lively. Charles Copeland, of Charles Copeland and Son, Denville, marketers of "Copane" gas, led in extemporaneous singing.

Much credit is due to those who put over this biggest New Jersey meeting, including L. H. "Red" McGuire of Suburban Propane Gas Corp., Whippany, N. J., who sent out

the announcements; also, to the artist who drew them.

In addition to Mr. Keible, of Ledge-wood, president, other officers of the association include Manny Gale, of Keyport, vice president, and Guy Richdale, Sr., of Somerville, secretary-treasurer. Mr. Hoagland was chairman of the committee on arrangements, which included Dan W. Quail, eastern manager, Stampings, Inc., Davenport, Iowa, and Mr. McGuire.

Minnesota

All officers of the Minnesota Petroleum Gas Association were reelected on Nov. 7 at the association's annual meeting in Hotel Lowry, St. Paul.

Renamed for the coming year are L. H. Dow, Duluth, president; M. G. Ostgaard, Tracy, vice president; John L. Locke, St. Paul, secretary, and A. W. Kyndberg, Minneapolis, treasurer.

NBPA

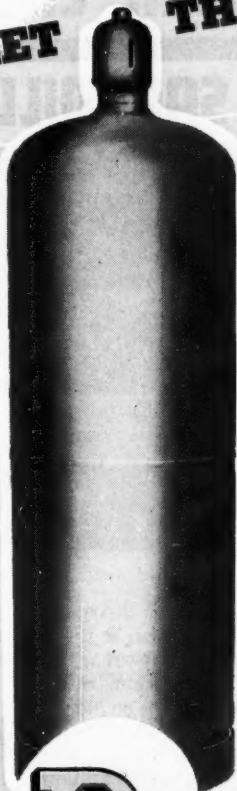
The board of directors of the National Butane-Propane Assn. go to Dallas, Texas, for their first 1950 meeting. Headquarters will be at the Baker hotel and the dates are Jan. 27-28.

All of the sessions of the directors will be open to any industry members who are interested in attending. There will be no registration fee and no organized entertainment.

The directors of the Texas Butane Dealers Assn. will meet at the same hotel on Jan. 26. On the evening of that day they will be hosts to the NBPA directors and their wives at a social function.

On Friday evening, Jan. 27, NBPA directors and their wives will attend Fort Worth's Fat Stock Show.

LET THE LIGHTWEIGHT DO IT!



The newest member
of the Delta LPG vessel
product family
is the new **LIGHTWEIGHT**.

High tensile,
low alloy steel gives this
sturdy cylinder strength
where you need it—strength
where it counts.

The **LIGHTWEIGHT** is a money-
maker for you, because
unusual strength with light
weight means lower handling
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**NOW IN PRODUCTION—
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DELTA TANK MANUFACTURING CO. INC.

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Export Office: Suite 118, International Trade Mart, New Orleans, U. S. A.
MANUFACTURERS OF LPG PRESSURE TANKS AND L.C.G. CYLINDERS

FIGHTER-PLANE ENGINE

MAKES A SAWMILL RUN



Sawmill of Wm. Southwick & Sons, Willits, Calif.

BY CARL ABELL

POWER

UP the Redwood Highway, about four miles north of Willits, Calif., we rolled over the summit of a wooded hill and looked down into a little valley of breathtaking beauty. We slowed down to enjoy it for a moment, and over the sound of our car came a noise like a P-38 coming in to land. It couldn't be! There would be no landing field in this tiny valley. The sound came from down in the hollow.

Suddenly the noise of the exhaust became a little less chesty, and the scream like the wind on the fuselage was stilled. For a mo-

ment only. Just as we swung around the curve the exhaust again broke into a roar, and the high pitched scream returned. Unmistakably the sound came from a little sawmill that had just come into view.

As we rolled on down the hill, a whiff of fragrant fir smoke came to our nostrils from the slabs and scraps burning under the cupola. There between the mill shed and the pond, gleaming with fresh aluminum paint, was a big LP-Gas tank. An aviation engine running a sawmill on butane!

As we turned in the driveway a big logging truck, outbound with its dolly on its back, made the boulevard stop before pulling onto the highway. The driver supplied the name of the mill owner—Southwick. We parked and walked across to the mill.

Sawing logs is teamwork. If one man stops, or lags in his work, it upsets the schedule for every other man on the job. I looked around for the boss, but every man in sight was working. I shouted above the noise of the saws and the rattle of the conveyor to the man at the end of the line, "Where's Mr. Southwick?"

He cut a pitch pocket off the end of a board, and flipped the plank on an escalator to the loading dock. "We're all Southwicks," he replied. "See the man who pulls the logs out of the pond. He has more time to talk than anyone else."

I picked my way along the edge of the pond past what seemed like a great many Mr. Southwicks, to the one who was feeding logs into the other end of the mill. I waited

while he hoisted a 20-foot-length of fir log out of the pond and scaled it for board feet. Keeping an eye on operations around him, breaking the conversation as needed to keep a log always ready for the feed carriage, he told me the story of the Wm. Southwick & Sons mill and its unique power plant. Over the roar of the exhaust and the whine of the saws, the following facts came out:

William Southwick grew up in his father's sawmill at Ogden, Utah. He worked there while his own family of seven sons and one daughter were growing up. A year and a half ago, accompanied by six of his sons and a nephew, he set up the mill near Willits. It is not large as sawmills go. It requires a working crew of eight men. Quite conveniently, there were just enough of the Southwicks available to do all the work.

The mill is laid out along very efficient lines, but it is not quite completely mechanized. There is no machine to pick up the sawdust and scraps of bark from the floor.

The entire personnel of Wm. Southwick & Sons lumber mill (left to right): William Southwick and sons, Earl, Lee, Harold, Verlon, Raymond; and nephew Darwin.



Signals are given by hand and received by eye. But from the time a log is raised from the pond until the boards are dumped on the shipping dock, no man lifts a bit of lumber.

In picking out a power plant for the main drive of the new mill, the choice narrowed down to an engine operating on diesel oil, or one able to utilize LP-Gas.

The Southwick-Allison engine works the equivalent of five days a week. It has required absolutely no repairs—not even a new set of spark plugs. They say it runs better now than when it was new. The head-rig with its two big circular saws tearing into a four foot log takes a lot of power.

Sometimes everything else is added at once—lifter picking another great log out of the pond—feed carriage pushing the log against the saws—rollers carrying the planks through the edgers and finally to the end man and up the escalator to the loading dock. The only separately driven units in the mill are the cut-off saws and the waste conveyor, which are electrically driven.

The final choice was an Allison (P-38) engine which was converted to operate on butane.

The engine, minus supercharger and airplane carburetor and with a few modifications, powers the saws which cut 3000 board feet per hour. For sawmill uses, the 400-hp engine is run at 1200 rpm—and uses $4\frac{1}{4}$ gals. of butane per 1000 board feet, or about 13 gals. per hour.

The engine was bought in a government surplus sale for \$300—a

vast saving over what a new diesel or gasoline engine would have cost. To convert it for butane use, Mr. Southwick first discarded the huge, original carburetor and the supercharger, added a new manifold adapter on which to mount a butane carburetor. The adapter, welded of seamless steel tubing in the shape of an inverted Y, proved to be a problem.

Since the Allison had been designed for supercharging, it was desirable to make the manifold long enough to utilize the inertia effect of a long column of moving fuel. This would partly compensate for the lack of positive pressure, for which the valve action had been designed. Since there were no restrictions of space above the engine for this operation, the manifold could be made long.

James G. Strickland, manager of the Pro-Flame Gas Co., Willets, helped with this design, and agreed that an Ensign 400 hp carburetor was the best choice for carburetion of the engine. In present use, the carburetor sits some three feet above the cylinders.

The engine did not perform satisfactorily until the valve tappet clearances were widened. At 1200 rpm, clearances of .060 in. were found to give best results. A D-8 Caterpillar tractor clutch, adapted for the sawmill job, was selected and is giving satisfactory service.

The engine was hard to start on

Opposite Page (top): Power begins at the LP-Gas tank for the Wm. Southwick & Sons mill. (Bottom): Allison engine operating sawmill, showing Ensign regulator and carburetor for LP-Gas.

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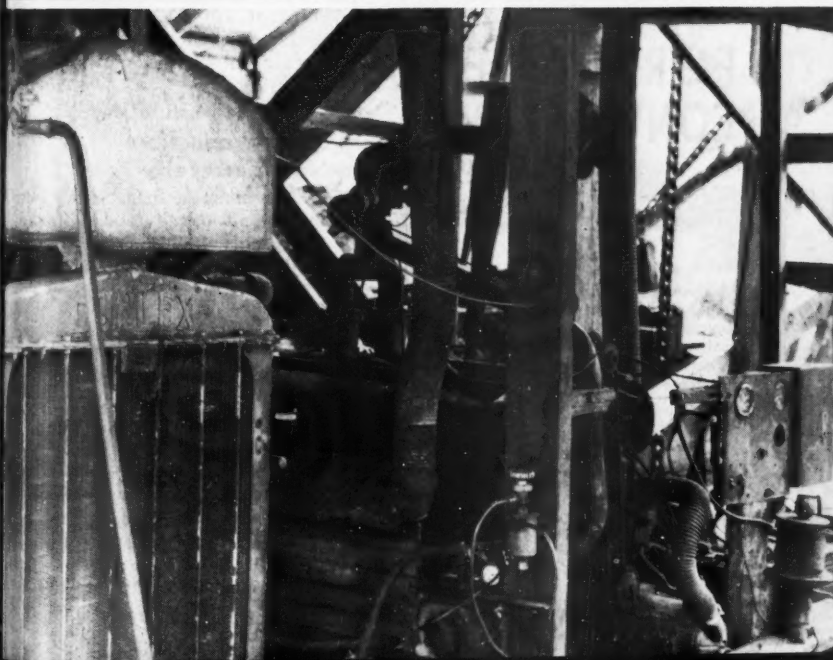
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Every DIX is Designed for the Engine for which it's Sold

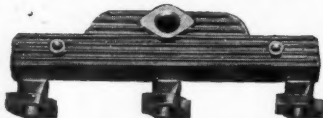
When you order a DIX LP-Gas Carburetor you select a unit designed to fit your motor. Every DIX comes from the factory ready for installation on the engine for which it is sold.

Another DIX feature you can't afford to overlook

Dix Manufacturing Co.

Export: 301 Clay St., San Francisco
3447 E. Pico Blvd, Los Angeles 23, Calif.

FOR BETTER CONVERSIONS



Make every conversion a better installation by using an Ellis Manifold designed especially for LP-Gas. Your customers will find they get more power and mileage . . . and you will get more customers.

Ellis "Bu-Power" Manifolds have been tested and proven by hundreds of successful installations.

ELLIS MANIFOLD CO.

1708 S. Soto St. Los Angeles 23, Calif.

LP-Gas. This difficulty has been overcome by adding a gasoline primer to the fuel system. This is a very simple arrangement. Fine brass tubes—the kind ordinarily called "hollow wire"—were inserted in the two forks of the Y manifold, sloping downward. The tubes were connected to a small plunger pump about the size of a veterinarian's hypodermic needle. The gasoline supply tank is small. A quart is sufficient to start the engine for weeks. One push of the primer plunger, and the engine takes off. It is then turned on LP-Gas, and operated normally without further choking or warming up.

The mill has been in operation for about 18 months. It has always run on butane and apparently always will, for the Southwicks have bought another Allison engine, have converted it for butane use, and are ready to put it to work as soon as the original engine shows signs of weakening.

Dix Starts Production On New Carburetor

The Dix Manufacturing Co., Los Angeles, has designed a new model LP-Gas carburetor for International Harvester tractors, according to an announcement by Dick Adair, head of the organization.

This new model will fit all International tractors and power units. Mr. Adair states that production on the new model will begin in December. It will be ready for dealers early in January.

Mr. Adair also announces that Dix window decals are now available for all Dix dealers that desire them. They will be sent upon request.

NEW PROFITS FOR L-P GAS DEALERS IN 1950!

A PLAN TO INCREASE

- ✓ L-P GAS SALES EVERY MONTH of the YEAR
- ✓ PROFITS FROM NEW INSTALLATIONS
- ✓ ADD NEW YEAR 'ROUND CUSTOMERS

ARE YOU OVERLOOKING

a new and profitable market right in your own territory? Dealers everywhere are finding that they can increase their immediate profits with new, easy-to-install ALGAS conversion units. *And then increase their fuel sales month after month!* ALGAS L-P Gas Carburetion helps you add these two-way profits to your present operations. ALGAS carburetion is backed by years of know-

how that actually brings new customers into your place of business. Without obligation you can obtain information on L-P Gas Conversions for truck, bus, tractor and stationary engines that will help you add profits in your own territory. Mail the coupon or write



Mail this coupon now, or write

AMERICAN LIQUID GAS CORP.

CARBURETION DEPT.

1109 SOUTH SANTA FE AVE., LOS ANGELES 21, CALIF.

Please send full details about ALGAS Carburetion Equipment.

Dealer Name

Street..... City..... State.....

(List type customers served)

Adjusting LP-Gas Carburetors

By H. P. GOSS

This is Part 3 of the series entitled "Most Carburetor Trouble is Somewhere Else," first appearing in the October issue.

Part 2, "Adjusting LP-Gas Carburetors," was published in November. It detailed adjustments on "Algas" and Century LP-Gas carburetors.

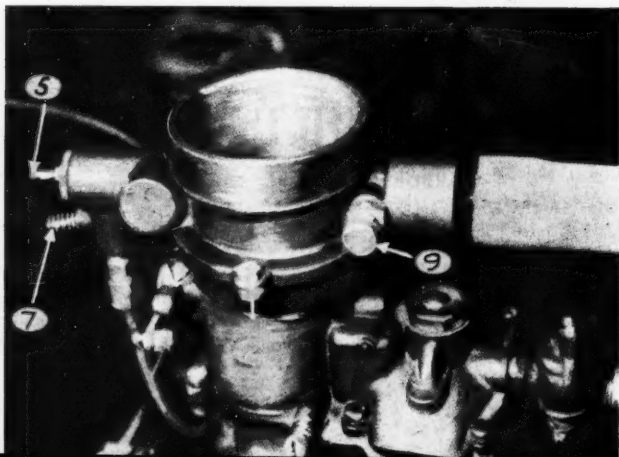
DIX CARBURETOR

Set throttle screw so engine will idle faster than normal, and let it run until it is warmed up.

Idle Adjustment. Gradually reduce throttle opening, adjusting idle mixture (7), to keep engine

running reasonably well until it is down to normal idling speed. Move adjustment screw in and out until you are sure that you have the fastest idle speed for that throttle opening.

Part Load Adjustment. Open throttle to cruising range, equal to road speed of about 40 miles per hour in passenger car engine, or approximately same engine speed for trucks or tractors. Do not move throttle during the rest of this test. Adjust part throttle screw (5) until you get the highest speed for that throttle opening, then back screw out, counterclockwise, until the engine just begins to lose speed. This is approximate setting for



The Dix mixer in position.

Humphrey L-P LAMPS

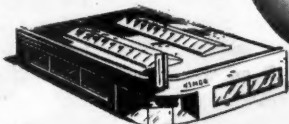
... light the way to REAL profit!



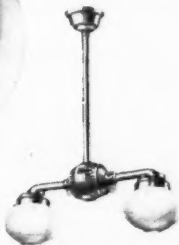
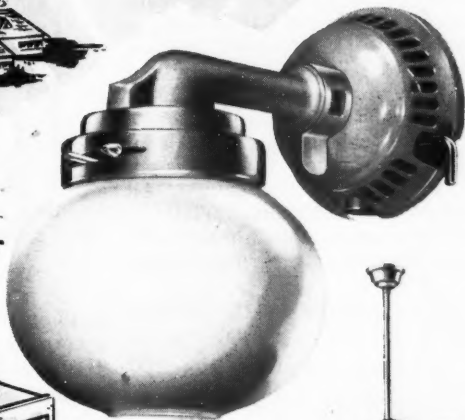
HOMES



CABINS



STORES



ALL-SEASON sellers, smart Humphrey Gas Lamps will help swell your profits year after year. Designed to operate on all types of L-P gases, these handsome, dependable lamps are ideal for regular lighting service in homes, cabins, stores and countless other places. Backed by over fifty years manufacturing experience.

Humphrey Gas Lamps are available in wall bracket types for wall mounting and in pendant fixture styles for suspension from the ceiling. Installation is simple and inexpensive. Write for literature and prices covering Humphrey lamps.



GENERAL GAS LIGHT COMPANY

KALAMAZOO, MICHIGAN

economy. Now recheck idle, which is influenced by partload setting. Set idle for smoothest and best operation, or for highest vacuum if using a gauge.

Power Adjustment. Push throttle open suddenly (gun the engine). If engine accelerates without hesitation, turn power adjustment screw (9) IN until engine just begins to lose pick-up when gunned. Then back screw (9) out (richer) half a turn at a time until engine is again giving full acceleration.

All jobs should be given a final road test, whether they have been set with instruments or not. All engines have individual variations, just like people, and it takes individual treatment to bring out the best in each.

After finishing adjustments, tighten lock screws on each.

ENSIGN CARBURETORS

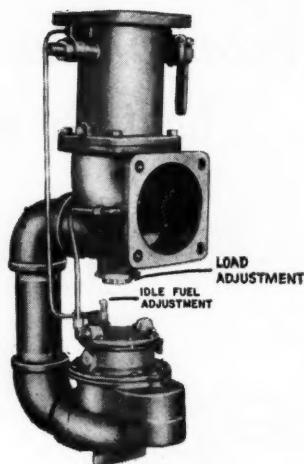
The idling adjustment for all Ensign carburetors is at the outlet of the regulating unit, not on the carburetor. The adjustment screw looks just like the idle adjustment of a gasoline carburetor—knurled head with spiral lock spring. It is located at the regulator end of the idling tube which connects with the throttle-body of the carburetor.

Ensign Model A

This carburetor is generally used on stationary engines. It does not have an economizer. There is only one adjustment on the carburetor.

Idle Adjustment. Set throttle stop screw for fast idle. Adjust idle screw on regulator for smooth operation.

Load Adjustment. With engine



Ensign Model A

pulling its load, turn adjustment screw IN (lean) until engine just begins to lose speed, and then OUT $\frac{1}{4}$ turn. Recheck idle, bringing engine down to normal idling speed and setting idle adjustment screw for fastest and smoothest operation.

Ensign Model Dg

Starting Adjustment. To start engine, close choke completely. This puts into effect a separate set of gas and air orifices. Start engine, and set starting adjustment for best operation with choke closed. Then open choke completely. There is no intermediate choking required.

Idle Adjustment. With choke open, set throttle stop screw for fast idle, and make temporary idle adjustment for smooth idle.

Load Adjustment. Bring engine up to speed, holding throttle in one position until this adjustment is complete. Screw load adjustment IN until engine just begins to lose speed, then OUT $\frac{1}{4}$ turn. On engines equipped with governor, the throttle should be held under the governed speed.

Final Idle Adjustment. Return to idle position. Back throttle stop screw out to take engine back to normal idle speed. Set idle adjusting screw (on regulator) to give fastest and smoothest idle, or highest vacuum.

Exhaust gas readings should be about 12.8 for full load, and between 13.8 and 14.2 for part throttle.

Ensign Model Cg

Starting Adjustment. To start engine, close choke completely. This puts into effect a separate set of gas and air orifices. Start engine, and set starting adjustment screw for best operation with choke closed. Then open choke completely. There is no intermediate choking required.

Idle Adjustment. With choke open, set throttle stop for fast idle, and make temporary idle adjustment for smooth operation.

Load Adjustment. Bring engine up to speed, holding throttle in one position until this adjustment is complete. Screw load adjustment IN until engine just begins to lose speed, then screw OUT $\frac{1}{4}$ turn. On engines equipped with governor, the throttle should be held under the governed speed.

Final Idle Adjustment. Return to idle position. Back throttle stop

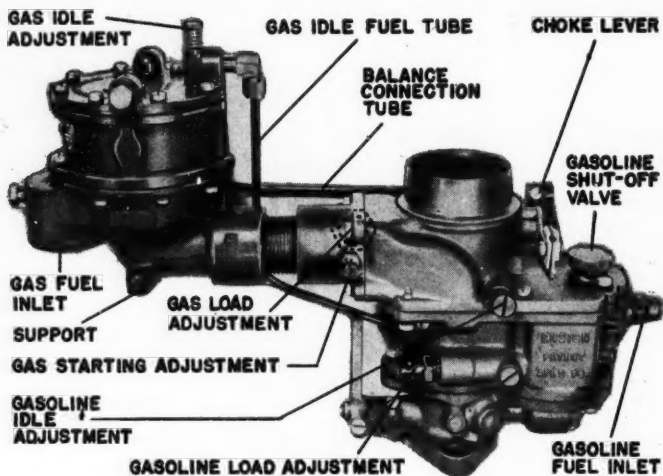


Ensign Model Dg

screw out to take engine back to normal idle speed. Set idle adjusting screw (on regulator) to give fastest and smoothest idle, or highest vacuum.

IF EQUIPPED WITH ECONOMIZER (small vacuum diaphragm unit mounted in place of the regular load adjustment): Proceed as above, substituting the following for the "Load Adjustment" instructions.

Load Adjustment. With economizer adjusting screw backed out as far as it will go, and the vacuum line between the economizer and the intake manifold disconnected, set the load adjustment by turning the entire economizer unit, just as you would the regular load adjustment screw. Follow procedure given above for load adjustment. It is necessary that the load adjustment be set correctly before further adjustments or connections are made.



Ensign Model Cg

Economizer Adjustment. Reconnect the vacuum operating line between economizer and intake manifold. With the throttle set for very fast idle, turn the economizer adjusting screw (in center of economizer diaphragm cover) clockwise (IN) until the engine slows down SLIGHTLY. It is neither necessary nor desirable to cause a large change of speed of the engine in making this adjustment. The maximum economy will not be obtained if this adjustment is set too lean.

If exhaust analyzer is used, set economizer screw to obtain mixture ratio of about 14:1 at cruising speed with throttle approximately one-half open. Be sure to disconnect the vacuum line if it becomes necessary to reset the load adjust-

ment, and to connect it up again before the vehicle goes into service.

Ensign Model Kgl

Starting Adjustment. Close choke completely. This puts into effect a separate set of gas and air orifices. Start engine and adjust gas starting screw for best running with choke closed. Then open choke completely for normal engine operation. There is no intermediate position when choking on dry gas.

Idle Adjustment. With the choke open, and throttle stop screw set for fast idle, set idle adjustment screw (on regulator) for smooth idle.

Load Adjustment. Bring engine up to speed, and leave throttle in this position for the rest of this test. Screw load adjustment screw

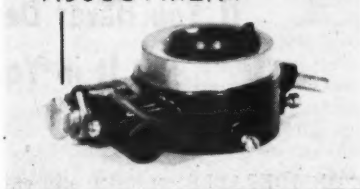
IN until engine just begins to lose speed, then screw it back OUT $\frac{1}{4}$ turn. Check adjustment on road or under full power to see that it gives maximum power. (With engines equipped with governor it is advisable to set throttle just under governor speed for this test.) Reset throttle for correct idling speed, and adjust idling screw (on regulator) for fastest and smoothest idle, or highest vacuum.

Exhaust gas analyzer readings after carburetor has been properly adjusted should be about 12.8 for full load, and between 13.8 and 14.2 for part throttle.



Ensign Model Kgl

ADJUSTMENT



Roadmaster Carburetor

ROADMASTER CARBURETOR

This is the simplest LP-Gas carburetor made, having only one adjustment, which takes care of everything.

It should be adjusted while under full load, making the setting as lean as possible for full power. Screw adjustment IN until engine just begins to lose speed, then screw it back OUT until you are sure that full power has been regained.

If full load conditions cannot be applied, an exhaust analyzer can be used at no-load very fast idle. Set adjustment to give approximately 14:1. This is the reading of the economy range, and the other adjustments will be in the proper proportions.

ASME Elects President

The election of James Dalton Cunningham, president of Republic Flow Meters Co., of Chicago, as the national president of The American Society of Mechanical Engineers for 1950, was announced Oct. 5 at the society's headquarters in New York.

Mr. Cunningham will succeed James M. Todd, consultant engineer of New Orleans, as president of the ASME.

If You Have "Depreciation" Coming Put It in Your Income Tax

CONSIDERABLE confusion still exists in the minds of many dealers as to how to treat depreciation in their income tax returns. Not a few are still ignoring depreciation entirely on certain depreciable assets with the result that their taxes are increased greatly. Some have set up, and are continuing to set up, depreciation schedules which do not conform to the rules laid down by the Internal Revenue Bureau. In such cases, tables of depreciation are frequently challenged at later dates by bureau auditors.

Inventories Pay Off

One commonly held misconception is that if depreciation is not taken from the outset of acquisition of a depreciable asset, the taxpayer may not start taking such depreciation at a later time. The taxpayer may take such depreciation in a current return, even though he has overlooked it in previous returns. This points up the wisdom of taking a physical inventory of depreciable assets with the view of uncovering assets not now in depreciation tables.

Another misconception is that depreciation of an asset starts at the time the taxpayer tardily elects to take previously overlooked depreciation. Actually, depreciation starts running from the time the asset was acquired — whether such depreciation has been taken in previous tax returns or not. That is, if an asset was acquired Jan. 1, 1948 with, let's say, a five-year useful life, and it did

BY HAROLD J. ASHE
Tax Counselor

not appear in the 1948 depreciation schedule, the first year's (1948) depreciation cannot be written off in the 1949 income tax return in the hope of recovering the overlooked year's depreciation. The 1948 depreciation is gone, even though not taken in 1948. The taxpayer can recover in 1949 only the 1949 (second year's) depreciation on such an asset, and the remaining three years depreciation spread over 1950, 1951 and 1952.

Some taxpayers who have not previously taken depreciation on certain assets, even though it was "allowable" in previous income tax returns, ignore "date of acquisition" and "cost or other basis." They misconstrue "other basis" as an invitation to value such assets at what their present new replacement value would be, a figure usually higher than the actual asset cost at time of acquisition. Actual cost is the only figure permissible.

What is Depreciation

As relates to Federal income taxes, depreciation is an allowance for exhaustion, wear and tear of property used in a trade or business, or of property held for the production of income. The purpose underlying allowance for depreciation is to permit the taxpayer to recover over the useful life of the property the capital invested therein. The terms "used in

trade or business" or "held for the production of income" includes property held for such purposes, even though actually not in use during the taxable year.

Taxpayers should not confuse fluctuation in value of an asset with depreciation. For example, a piece of equipment becomes second-hand at the moment it is first used, and at least its re-sale value may drop sharply at that point. However, such a circumstance has no immediate bearing on depreciation. Only that part of the loss in value which is due to actual exhaustion, wear and tear in business use, during the year, may be deducted as depreciation.

Neither are "obsolescence" and "depreciation" synonymous. Obsolescence is the reduction in value resulting from changes in circumstances that make it desirable or imperative that the property be replaced before it has been worn out, such as advent of new machinery that is faster, better or more economical than the old machinery. Annual depreciation is the loss which takes place in the course of a year.

Obsolescence Claim Allowed

If it can be clearly demonstrated that, because of economic or other conditions, property must be abandoned at a date prior to the end of its normal useful life, so that depreciation deductions alone are insufficient to return the cost or other basis, a reasonable deduction for obsolescence may be allowed in addition to depreciation.

"Complete exhaustion" does not necessarily mean the same thing as "useful life." If a piece of equipment, for instance, has a salvage or scrap value at the end of its useful life, this value must be taken into consideration in determining the depreciation rate.

A further requirement in determining depreciation is that the property must have a limited and determinable useful life in the trade or business. Land, for example, upon which a building is erected, is not depreciable since it has no determinable life, and in setting up depreciation on real estate, the cost or other basis for the land must be segregated from the cost or other basis for the buildings. Thus, a building and land might represent an original cost at time of acquisition of \$20,000. If, however, a fair value for the land at time of acquisition was \$5000, then the building's value at time of acquisition would be \$15,000, and the depreciation schedule would be based on the \$15,000 figure.

Life of Property Varies

The length of useful life of a property is often difficult to determine. It depends upon particular circumstances, including the character of the property and its use. A well-built brick building may have a useful life of 50 years, and a frame building 25 years, a piece of machinery 5 or 10 years, a truck 3 to 5 or 8 years, but in a particular business the useful life may vary considerably.

Alterations made by the taxpayer to business quarters which he rents for his business use may be depreciated over the period his lease has to run from the time such alterations were made, or the useful life of such alterations, or whichever is the lesser period of time.

Cars used partly in business and partly for private use may be depreciated with that part of such depreciation chargeable to business use deductible, the personal part not being deductible.

In depreciation deductions, the amount claimed must be supported by the data called for in the depreciation schedule. Taxpayers may not

safely — as many now do — merely show the amount of depreciation being taken without showing how they arrive at such an annual writeoff. This information must include: the kind of property being depreciated, the date acquired, the cost or other basis used in computing depreciation, the depreciated value at the end of the year, the depreciation allowed or allowable in prior years (even though not previously taken), and the remaining cost or other basis to be recovered, as well as the estimated life used in accumulating depreciation, and the estimated remaining life at the beginning of the tax year being reported.

Any recognized method of accounting practice may be used in computing depreciation, provided the method is used consistently. Once the method is elected it may not be changed except with the permission of the Commissioner of Internal Revenue. Nor may depreciation for one year be taken in another year. Each year's depreciation must stand by itself, and be taken in the year in which such depreciation actually occurs.

CALENDAR

All associations are invited to send in dates of their special and annual meetings for this calendar.

Dec. 8-9—LPGA Board of Directors. Netherlands-Plaza Hotel. Cincinnati.

Dec. 9—NGAA Regional meeting. Herring Hotel. Amarillo, Texas.

1950

Jan. 27-28—National Butane-Propane Assn. Board of Directors Meeting. Baker Hotel. Dallas, Texas.

April 12-14—National Petroleum Assn. Hotel Cleveland. Cleveland, Ohio.

April 24-26—Natural Gasoline Assn. of America Annual Convention. Texas Hotel. Ft. Worth, Texas.

May 8-11—Liquefied Petroleum Gas Assn. Annual Convention & Trade Show. Palmer House. Chicago.

May 11-12—Missouri LP-Gas Assn. Hotel President. Kansas City.

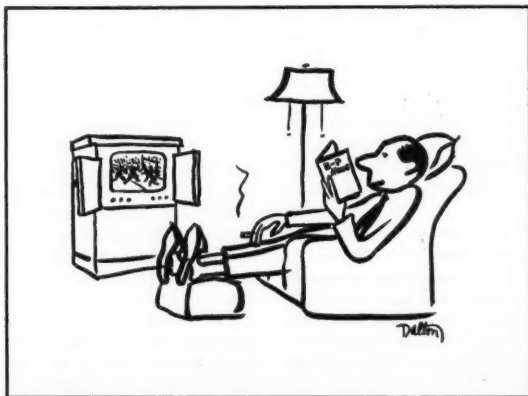
May 28-30—Gas Appliance Manufacturers Assn. Annual Meeting. The Greenbrier, White Sulphur Springs, W. Va.

June 22-24—Texas Butane Dealers Assn. Blackstone and Texas Hotels. Fort Worth.

Sept. 13-15—National Petroleum Assn. Hotel Traymore. Atlantic City, N. J.

Sept. 18-20—National Butane-Propane Assn. Congress Hotel. Chicago.

Oct. 2-6—American Gas Assn. Annual Convention. Atlantic City, N. J.



Be sure to see the new 1950 FLORENCE Regency GAS RANGES

5 NEW MODELS PRICED TO SELL*

from \$89⁹⁵ (space-saver model)
to \$144⁹⁵ (custom deluxe model)

EXCLUSIVE... Only Florence has the amazing new

**Vita-Flame
Burner**

Cooks Faster—Cleans Easier—Saves Gas

EXCLUSIVE... can be dismantled
in less than 1 minute! No other
gas range is so easy to service



Sells for less, feature for feature, than any other Gas Range

THE NEW Florence Regency LP-Gas Range Line was designed to sell fast in today's market...at a good profit for you!

It cuts service expense to the minimum—because the new Florence Regency Line is by far the easiest to service.

It out-performs other leading ranges...offers the sensational VITA-FLAME Burner which is found on no other range, at any price. Get full details from your Florence representative or PHONE, WRITE or WIRE the Division Office nearest you.

Tests prove Florence more efficient

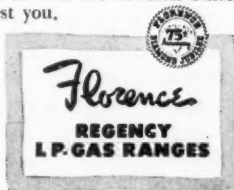
In our laboratory tests, conducted under A. G. A. standards, the Florence Vita-Flame Burner and 5 other leading brands were compared for efficiency. Tests proved conclusively that:

**FLORENCE
IS**

- 12% more efficient than Range E
- 11.5% more efficient than Range D
- 11% more efficient than Range C
- 10.5% more efficient than Range B
- 10% more efficient than Range A

*Depending on transportation costs.

FLORENCE STOVE COMPANY... General Sales Offices and Plant: Gardner, Mass. Mid-Western Plant: Kankakee, Ill. Southern Plant: Lewisburg, Tenn. Other Sales Offices: One Park Avenue, N. Y.; 1452A Merchandise Mart, Chicago; 418 Western Merchandise Mart, San Francisco, Cal.; 53 Alabama St., S. W., Atlanta; 301 No. Market St., Dallas.



PRODUCTS

Truck Pump

Lubbock Machine Co., Lubbock, Texas.

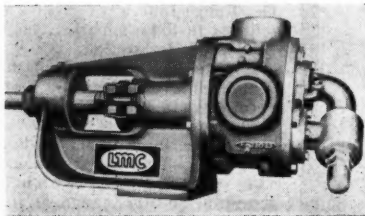
Model: LMC Truck Pump.

Application: Built specifically for the LP-Gas industry.

Description: The truck pump features gear-within-a-gear construction, assuring extra close tolerances which result in good volumes and high pressure.

Long life, despite rough daily use required, is made possible by the sturdy construction which includes a chrome-plated shaft.

One-day rebuilding service and a satisfaction guarantee are extra features offered by Lubbock on its new pump.

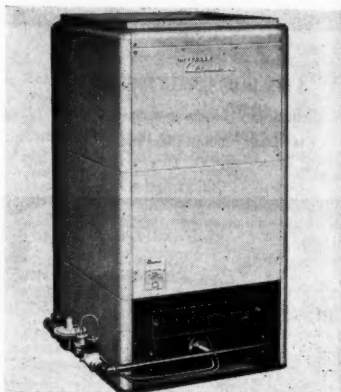


Gravity Furnace

L. J. Mueller Furnace Co., 2005 W. Oklahoma Ave., Milwaukee.

Model: Type 111 Climatrol.

Description: Outstanding in this new unit is its compact size: 25 1/2 in. wide, 51 in. high, and 26 1/2 in. deep.



It has a heavy, welded-steel heat exchanger with a square radiator uniquely connected to eliminate expansion and contraction strain or noise.

Products of combustion are diverted up and down through the use of free floating corner baffles in the radiator. This produces a whirling action and provides greater heat extraction. The square radiator in a square unit casing is said to insure even distribution of heat and eliminate any cold corners. The Type 111 is updraft design.

A circular burner is used to follow the contour of the heat exchanger drum. The burner manifold, with controls, is external to the unit but compactly arranged adjacent to the unit.

The furnace is shipped pre-assembled in two packages—one with a burner and trim and the other with assembled heat exchanger and casing. A solid base with leveling screws

eliminates the necessity of a concrete setting or grouting.

This new "Climatrol" has been approved by the AGA for all fuels and for high altitude installation at full rating.

Delivery Truck

Charles Emory Corp., 617 Fruit St., Santa Ana, Calif.

Model: F 100.

Application: Consumer delivery truck.

Description: A production-built delivery truck designed for consumer delivery. It has modern, streamlined body with all compartments housed.

The two twin tanks are 250-lb., API-ASME, 642 gross gals. each. Designed to haul butane or propane as desired.

Rear doors house all equipment. Open up to allow easy operation. All controls available from rear. These include: Smith pump, 50-gal. capacity; Neptune meter, with vapor eliminator and back pressure regulator; Taylor float type gauges; pressure gauges; outage for propane or butane; vapor return, $\frac{3}{4}$ in.; filler valve, $1\frac{1}{4}$ in.; vapor eliminator valves; Bohnhardt internal valves.

Total weight is 9750 lbs. (est.). Water capacity is 1283 gals. Truck is fully equipped and ready for service

when it leaves shop. Production line models all built on Ford V-8's. Other makes available at extra cost.

Three type pumping operations are available: (1) Load tank truck. (2) Unload truck. (3) As auxiliary for unloading tank cars or transports into storage tank. In this case, fuel does not go through truck.

Twin tanks allow low center of gravity. Can haul two types of fuel at once. All valves are recessed and cannot break off in case of accident.

Forge Furnaces

Eclipse Fuel Engineering Co., 791 N. Main St., Rockford, Ill.

Model: Eclipse Gas-Fired Forge Furnace.

Application: Suitable for heavy duty and continuous operation at usual forging temperatures of 2200°F.

Description: Furnace shell is constructed of heavy angle framework with sides and back of steel plate, electrically welded to structural steel legs. Heat loss through the walls is reduced to a minimum by the use of first quality insulating firebrick. This type of wall construction is said to cut down fuel consumption.

Burners are of the semi-nozzle mixing McKee entrainment type, and are located so as to prevent flame impingement on the pieces being heated



and to give uniform heat distribution. A McKee Zero governor gives automatic, efficient control of the air-gas ratio.

Fuel burners are designed to use low pressure gas, 3 to 10 in. w.c. and 16 ounces air, but high pressure burners are also available.

The operator is protected by a curtain of air, for safety and comfort, which carries the heat away from him and behind the specially designed refractory-lined heat shield.



Pneumatic Instruments

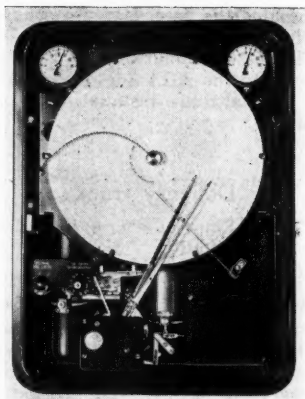
American Meter Co., 60 E. 42nd St., New York, N. Y.

Model: Series A-88.

Application: For transmitting and controlling flow, pressure and liquid level.

Description: With the cooperation of many operating instrument engineers, problems of maintenance and service have been simplified by reducing the number of pivot points and moving parts. Numerous features requested by process industries have been incorporated.

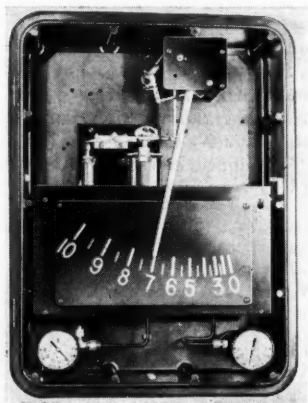
By unitizing sub-assemblies and



Proportional re-set controller-receiver.

standardizing parts, a high degree of interchangeability has been achieved, making the instruments readily convertible to changing conditions and applications.

Other new additions in the Series A-88 include: a positioning device



Pneumatic transmitter.

simplifying linkage alignment in the field; a spring-closing, bellows-sealed reset valve calibrated according to time; and a nozzle assembly which permits adjustment of the nozzle without breaking tubing connections.

A damping device for smooth operation is included and is equipped with a self-cleaning primary orifice and a by-pass arrangement which permits changing to manual control by turning one screw. The instruments are arranged so that they can be reversed by shifting one end of one link without disturbing other adjustments.



Thread Sealing Compound

Armite Laboratories, 6609 Broad St., Los Angeles.

Model: "Thread-Tite."

Application: Designed to be carried in either pocket or tool kit, this new thread sealing compound provides a positive seal against gases, brine, acids, water, steam and ammonia at high and low pressures and temperatures. It may be applied to steel, aluminum, iron, brass, plastic, copper, and threads in any other type of material.

Description: In addition to providing a positive seal, Thread-Tite protects threads from seizing or galling.

Pipe joints, bolts and studs can be drawn tighter than is normally possible, due to lubricating qualities in this compound, and then easily unscrewed, even after long service.

It is reported that the compound will not harden or dry out in time, and is not affected by vibration. As Thread-Tite is used, the stick may be pushed forward in its case, allowing efficient application until material is completely used. Each stick is supplied with metal cap to prevent compound from getting dirty or rubbing off on clothing.

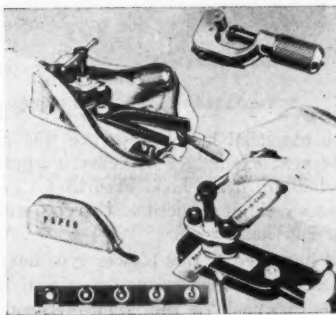
Flaring Tool Kit

Penn Brass & Copper Co., Erie, Pa.

Model: Papco "Form-a-Gage."

Application: This flaring tool kit contains the No. 400 flaring tool; No. 500 cutting tool; and the new Papco "Form-a-Gage."

Description: This new height gauge with double flare plate—five sizes in one—assures better double flares. The tube flaring tool selects the right size for all hand tool flaring jobs. Each part is specially hardened, assuring long life and smooth handling. Only the pressure pad is of soft metal.



Unit Heater

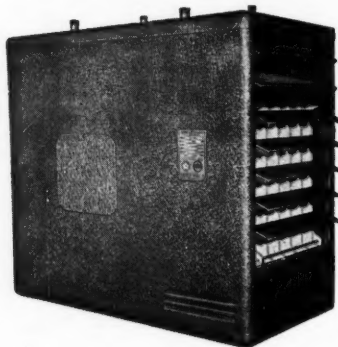
Automatic Gas Equipment Co., 301
Brushton Ave., Pittsburgh 21, Pa.

Model: Pittsburgh Blower Unit
Series "CB."

Application: This unit has been designed for installations which require heated air at greater velocities and against greater static pressure.

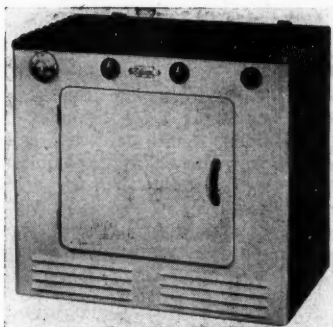
Description: Featuring a squirrel cage fan, the new unit is basically the same as standard Pittsburgh gas unit heaters and is equipped with cast iron heat exchanger and combustion chamber. It is supplied in five sizes, with the following Btu outputs: 172,000, 136,000, 112,000, 84,000 and 68,000 per hour.

The combustion chamber and heat exchanger are cast in one piece and



the extended heating surface fins on the heat exchanger are cast integral. A built-in draft hood absorbs all excessive chimney action, thereby conserving heat.

Literature of this blower type heater will be mailed to inquiring dealers upon request to the manufacturer.



Trailer Range

Coleman Co., Inc., Wichita, Kan.

Model: No. 398C.

Application: Built specifically for installation in trailer coaches.

Description: This range has three large high-speed burners, with instant regulation. The large oven takes family-sized baking pans. Automatic oven heat control is furnished.

Stove top folds down to give extra working space. Dimensions: 25 3/8 in. wide, 18 in. deep, 21 in. high. The range fits over the wheel housing of the trailer.

It is finished in white enamel, with black enamel burner grates.

Steel Housing

Petroleum Engineering Corp., 122
S. Michigan Ave., Chicago.

Model: Erect-O-House.

Application: Suitable for use as housing for tools, pumping equipment, valves, cylinder filling operations, meters, fire equipment, etc.

Description: Patented method of assembly combines light weight with rugged strength. Construction utilizes

TOUGH INSTALLATION PROBLEM?
CHECK PANELRAY "F"
GIVES RADIANT HEAT ANYWHERE

STUCK with an installation problem yet want Panelray radiant heat? PANELRAY "F" is the answer. With two sizes 9,200 and 16,500 B.T.U. both occupying only a 9 inch circle of floor space, PANELRAY "F" installs anywhere and gives you the same healthful, infra-red heat as the standard Wall Type PANELRAY. Type "F" mounts on the floor and directs its millions of rays at body height. You substitute warm floors for hot ceilings. "Cold spots" are eliminated and the entire area becomes speedily warm. But that's not all. Heat from Panelray, by re-radiation and natural circulation heats adjacent rooms just like any centrally located warm air heater. The direct, body height heat in the living zone, is the bonus that you get only with Panelray. Prospects for PANELRAY "F" are everywhere. Line up with the trend. Sell PANELRAY "F." In satisfaction and in sales, you, too, will find it — "The Line of Least Resistance."



**LECTRO-GLO
WALL HEATER**

3 way heat — Radiant, Reflected, Circulating. Non-vented, low in cost. A small unit doing a big job.

Automatic
PANELRAY "F"
 vented
 or non-vented

DAY & NIGHT DIVISION

Affiliated Gas Equipment, Inc.,
 Monrovia, Calif.



"The Line of Least Resistance"

CLIP AND MAIL!

Day & Night Division — Affiliated Gas Equipment, Inc.,
 Monrovia, Calif.

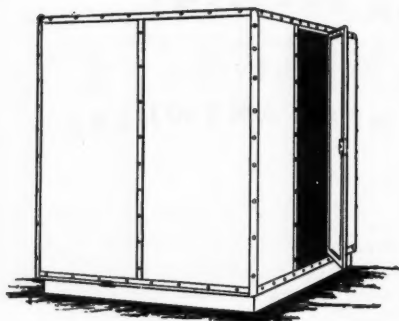
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☐ PANELRAY "F" ☐ LECTRO-GLO WALL HEATER

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ADDRESS.....

CITY..... ZONE..... STATE.....



light sheet metal. Easily assembled or disassembled, skilled help is not required for erection.

Inasmuch as the houses are of sectional design, length can be increased. Doors and windows are furnished as required. The panels come in two sizes: 3 ft. by 6 ft. and 4 ft. by 9 ft.

Tunnel Burner

Bryant Industrial Div., Affiliated Gas Equipment Inc., 1020 London Rd., Cleveland, Ohio.

Model: Pyronic Tunnel Burners.

Application: The burners, burning

any combustible mixture of gas over a wide range of mixture pressures, simplify problems of furnace design, fuel changeover and standby operation.

Description: Available in capacities of from 6000 to 1,600,000 Btu/Hr., the new burners are designed to operate efficiently without special adjustment anywhere in the 450-2100 Btu gas range.

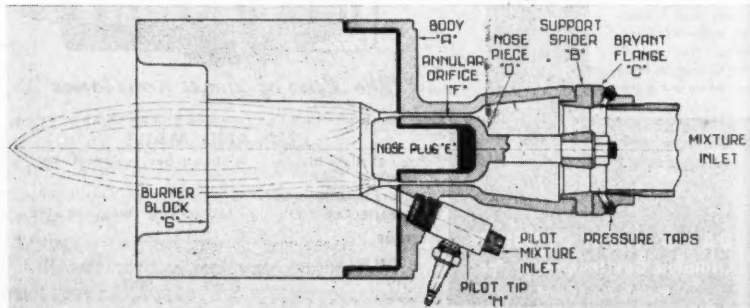
Mixture pressures used may run from 0.1 in. W.C. to 24 oz. or more making possible low turn-down and high pressure operation for high temperature operation.

The burner's long annular port tends to eliminate backfire and turbulence at the port, making for easy lighting. They may be lighted from outside the furnace, either manually or by spark plug blast pilot furnished for push-button ignition.

Squibb-Taylor Catalog

A complete, new catalog of LP-Gas equipment and specialty items is just off the press and is being placed in the mails by Squibb-Taylor, Inc., of Dallas.

Squibb-Taylor is national distributor of Taylor visible gauges, manu-





Why Share the Wealth?

... BUILD YOUR OWN BULK PLANT

Why share the wealth of profits in today's big LP-Gas market? Call on PGC and within 45 to 60 days your own bulk plant can be ready. PGC's engineers, experienced in hundreds of installations, will design, construct, equip and fuel your complete plant. Then you can go after that waiting new business. Then you can forget those middlemen... the costly trucking and handling charges. Pacific Propane is always available for spot shipment or contract and PGC tank cars are ready to deliver any place in the nation. For information about a PGC distributorship write today to your nearest PGC office.



**PGC SERVES FROM
COAST TO COAST**

- Standby
- Peak Shaving
- 100% Town Supply
- Vaporizers
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PACIFIC FINANCE PLAN available to acceptable Dealers and Bulk Plant Operators

Pacific Gas Corporation

SPECIALISTS IN LP-GAS AND EQUIPMENT

Rushmore Center, 630 Fifth Avenue, New York 20, N. Y.

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factured by the J. Y. Taylor Co., Garland, Texas. One section of the catalog is devoted to these precision-made liquid level gauges, including the "Junior," "Senior" and "Master" models. All are illustrated along with mounting diagrams. Complete size and price schedules are given.

A second illustrated section of the catalog is given over to pressure control equipment manufactured by Fisher Governor Co. of Marshalltown, Iowa. Squibb-Taylor is exclusive sales representative of Fisher Governor Co. in Southern and Southwestern states.

A third division covers the LP-Gas products designed and manufactured by Selwyn-Landers Co., of Los Angeles. Among the items included are valves and fittings, safety hose nozzles, adaptors and couplings. Squibb-Taylor represents Selwyn-Landers Co. in 11 states of the Southern-Southwestern area.

The entire catalog has been arranged for convenient reference and simplicity in ordering. According to Cecil E. Squibb, president of the corporation, those who have not received the catalog may have a copy by addressing their request to Squibb-Taylor, Inc., 1213 South Akard St., Dallas, Texas.

A. O. Smith Book Tells How

The A. O. Smith Corp., Milwaukee, Wis., has recently started a promotional campaign directed to consumers using Smithway gas systems. Here is how it operates:

When the manufacturer receives the guarantee registration card, indicating a sale by a dealer, a letter and informational booklet are sent to the customer. The booklet lists all domestic uses of LP-Gas—cooking, water heating, refrigeration, house heating. It also tells about various farm uses of the fuel—truck

and tractor installations, chicken brooding, irrigation pumping, etc.

Several safety pointers regarding protection of the system are given. These are stated simply and are directed right to the consumer.

Posey Iron Bulletin

A new, 10-page color bulletin has just been issued by Posey Iron Works, Inc., Lancaster, Pa., describing in detail the varied operations of the company. The many divisions of the company include steel plate, brick machinery, foundry, Iroquois, heating and Mayo steel form. The company also operates a shipbuilding division in Perryville, Md.

Detailed descriptions are given both of the materials produced and the plants which produce them. Prominent among Posey's products are storage tanks for the LP-Gas industry.

Appliance Regulator Catalog

A revised catalog, No. 1036, has been issued by Pittsburgh Equitable Meter Division, Rockwell Manufacturing Co., describing the company's line of gas appliance regulators and allied equipment.

The bulletin has been divided into three sections, these including: (1) aluminum body regulators, $\frac{1}{8}$ in. through $1\frac{1}{4}$ in.; (2) double valve, iron body regulators, $1\frac{1}{2}$ in. through 3 in., also complete specifications, cut-away views showing construction details and performance curves; (3) Rockwell-Emco flow indicating meters used to clock flow rates when installing appliances, and safety vent cap for small regulators.

This bulletin is available from the company at 400 N. Lexington Ave., Pittsburgh, Pa.

Novel Sales Plan Executed By Petrolane Gas Co.

Scores of LP-Gas users in southern Louisiana, the Mississippi Gulf Coast area and northern Louisiana have become the proud possessors of beautiful new automatic 1950 Petrolane-Tappan gas ranges within the past few months, as a result of an aggressive, enterprising and novel sales promotional campaign just completed by the Petrolane Gas Co., of New Orleans.

In early June, the Petrolane Gas Co. took over the distributorship of LP-Gas Tappan ranges.

Shortly thereafter the company inaugurated a vast advertising, radio

and sales promotion campaign to introduce the new Petrolane-Tappan range in its territory. To tell the story of the many exclusive advantages of Tappan, Petrolane ran a series of large advertisements in every country newspaper, supplementing this with news stories and news pictures. The campaign proved successful, as ranges began to move out from the company's warehouses into cross-road and by-way homes and stores.

Following up this initial campaign, Petrolane immediately inaugurated a novel contest to determine the oldest butane-propane ranges in its territory. A number of new 1950 Petrolane-Tappan CP ranges valued at



Louis Abramson, Jr., right, president, Petrolane Gas Co., introduces Coach Henry Frnka, of Tulane (center) at the company's employees dinner party in honor of the completion of a successful Tappan promotion contest. At the left is Don Sharp, general sales manager of the Tappan Stove Co.

\$3000 were offered as prizes to the owners of the oldest LP-Gas ranges.

To make it easy to win and to further introduce the new Petrolane-Tappan range, the company offered one range for each of its district offices and one additional range for the very oldest butane stove of all those entered. And as a further inducement to get its customers and prospective customers to register their old ranges, Petrolane added 23 additional prizes to those entering the old stove round-up regardless of the age of their ranges. These additional prizes included one Petrolane-Tappan range, one 20-gallon water heater installed free, and 21 space heaters.

Thousands of attractive entry blanks were distributed by mail, company drivers and salesmen. The contest got under way Aug. 15 and ended at midnight Sept. 15. In addition to

liberal advertising space, news stories, and its well established "Petrolane Pete" daily radio program over a New Orleans station, the company bought time over three additional country radio stations.

As an incentive to its own salesmen, Petrolane offered cash prizes to the two top salesmen selling the most Tappan ranges during the period.

Entries were so numerous it took a large office staff more than two weeks to check the winners of the oldest ranges.

To celebrate the completion of the successful campaign, Petrolane threw a big "T" party for its more than 150 employes on Oct. 1. Executives of the Tappan Stove Co. from Mansfield, Ohio, were honored guests.

Louis Abramson, Jr., president of Petrolane, was toastmaster of the successful employe-morale builder dinner party.



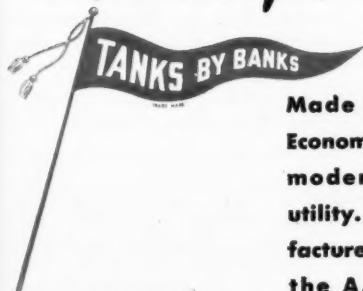
Rustic log buildings at Ross' Teal Lake Lodge, where Wisconsin LP-Gas Assn. held its unique summer convention.



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customers' specifications.

DALLAS TANK COMPANY, INC.

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DALLAS, TEXAS



J. H. Lewis (center) accepting citation from Otto Kettleson, San Diego Gas & Electric Co. At left, Clifford Johnstone, PCGA, and R. H. MacMahon, Southern California Gas Co. At far right is Louis Wollenberger, Coast Counties Gas Co.

J. H. Lewis Given Recognition For Service to Gas Industry

At the annual convention of the Pacific Coast Gas Assn. in Santa Barbara in September, J. H. Lewis, for many years identified with the gas industry, received an award in recognition of his long service and important contributions to the industry. The citation was presented by the commercial cooking division of the association.

Mr. Lewis retired recently as sales manager of Grayson Controls Division, Robertshaw-Fulton Controls Co., Lynwood, Calif., after 17 years with the company. Prior to the affiliation of Grayson with Robertshaw he was district manager of Robertshaw and had been specially active in committee work for the Pacific Coast Gas

Assn. in its campaign, and that of the utilities for expanded commercial cooking development as a load builder.

NBPA Issues 1949 Supplement To State Law Compilation

The National Butane - Propane Assn. has recently completed publication of Supplement No. 8 to its compilation of state laws and regulations covering the LP-Gas industry in the United States. This is the third supplement issued during the current year and includes revised regulations issued in Arkansas, California, Kansas, Minnesota, North Carolina, Rhode Island, and Texas.

According to E. E. Hadlick, executive vice president of the association, a few copies of the complete state law compilation are available at \$25 per copy.

Stanley Hobson Heads GAMA

Installed as president of the Gas Appliance Manufacturers Assn. in October was Stanley H. Hobson, president of the Geo. D. Roper Corp., Rockford, Ill. He also was elected director of the American Gas Assn., after having served in several official capacities in GAMA and AGA.



STANLEY HOBSON

Division chairman named by Mr. Hobson include:

Controls and related accessories: J. F. Ray. Direct heating equipment: L. O. Reese. Domestic gas range: W. H. Muhlbach. "CP" manufacturers group: H. E. Jalass. Clothes dryer: C. H. Rippe, Jr. House heating and air conditioning equipment: I. E. Seith. Air conditioning: John K. Knighton. Boiler: H. C. Day. Conversion burner: J. V. Rerucha. Furnace: Russell M. Cook. Floor furnace: Lee A. Brand. Incinerator: J. W. Hebert. Meter and regulator: Floyd Gaunt. Refrigerator: Louis Ruthenburg. Valve: Philip S. Harper. Water heater: Leland M. Feigel. Hotel, restaurant and commercial gas equipment: E. J. Horton. Industrial gas equipment: Alvin M. Stock.

New Minnesota Regulations Become Effective

The new rules and regulations for the storage, handling and transportation of liquefied petroleum gas in the state of Minnesota were approved recently by the attorney general's office, as set forth by Leonard Lund,

state fire marshal. The rules became effective Sept. 16.

Realizing the necessity of everyone in the industry having a copy of these rules and regulations, John L. Locke, secretary of the Minnesota Petroleum Gas Assn., has asked industry members to contribute to a fund for printing costs. According to Mr. Locke, response to this request has been gratifying. The desire of the industry to have the rules and regulations is illustrated by C. J. Christopher, manager of Minnesota Retail Hardware Assn., who has ordered 1200 copies for distribution to the membership of his group.

NBFU Pamphlet No. 58, with minor changes, was used as the guide in formulating the orders.

"Maingas" Holds Service School for Distributors

A two-day service school and convention, Oct. 26-27, sponsored by Maine Gas & Appliances, Inc., Portland, Me., distributors of "Maingas" in Maine and New Hampshire, was attended by more than 75 dealers and their servicemen. The school was the first of four similar technical sessions planned for every six months, said C. C. Turner, Maine Gas vice president.

Dealers and servicemen heard sales and service engineers from top manufacturers serving the bottled gas field point up servicing problems and their solutions. Written tests were given those attending the school, and service proficiency cards received by those who passed the test.

Bottled Gas Displays Create High Interest at Saginaw Fair

Just about the biggest thing in the implement show at the Saginaw,

Mich., county fair, held recently, was the display of a Minneapolis-Moline tractor equipped for use with LP-Gas, according to Guy Speaker, Bay Bottled Gas Co.

And the Saginaw fair, said to be the second largest county fair in the U.S., is especially important to LP-Gas dealers, because it is a predominantly rural affair. The farmers and fringe-area families were the ones at whom the tractor display was aimed—and they are the ones who made it a success. Mr. Speaker said that they crowded around the display during all hours that the fair was open, and that attendants were hard-pressed to keep up with all the questions.

The tractor fuel lines also fed an LP-Gas range on which was placed a whistling teakettle—which caused amazement among the crowd because of novelty of cooking with the same fuel that fires the tractor.

In addition to the tractor display, Bay Bottled Gas also maintained an exhibit in the manufacturers' section of the fair, featuring a complete line of gas ranges, water heaters, space heaters, boilers, and cylinder and tank systems. A big crowd-pleaser was a Ford V-8 engine, set up in the booth to run on LP-Gas. Mr. Speaker said that representatives of trucking firms at the fair were impressed by the exhibit to the extent that several are now considering switching over to LP-Gas.

Green's Fuel Honors Employee's Twentieth Business Anniversary

A testimonial dinner honoring Miss Sarah A. Jackman, secretary and treasurer of J. B. Green Plumbing & Equipment, Inc., Green's Fuel, Inc. and Green's Fuel of Florida, Inc., was given on October 14 in commemora-



Miss Sarah A. Jackman and J. B. Green.

tion of her twentieth anniversary as an employee of the organizations.

The dinner was held at the Swiss Chalet, Sarasota, Fla., and J. B. Green, founder and president of Green's Fuel, Inc., made the presentation of the gifts.

Seventy-five employees and family members were present for this occasion. Miss Jackman, one of the pioneers in the LP-Gas industry, has witnessed the growth and development of not only the Green organization but that of the industry as a whole.

L. V. Winther, Carburetor Expert, Dies in Fresno, Calif.

L. V. Winther, of Winther Brothers, Fresno, Calif., passed away Oct. 13 in Fresno. He died of a heart attack at the age of 50.

Mr. Winther was one of the pioneers in the development of LP-Gas for use in internal combustion engines in tractors and trucks. He began this work in the early 30's as an Ensign distributor.

Mr. Winther's brother Clarence died two years ago of a similar heart ailment. The two boys were partners throughout their business experience. Both of them were approximately the same age at death.

THE TRADE

Rolland J. Hamilton, who has been an important executive figure in the heating and plumbing industry for more than 40 years, has retired as vice president of the American Radiator & Standard Sanitary Corp.

His retirement, according to Theodore E. Mueller, president, will be in accordance with the company's retirement plan. Although relieved of his duties as vice president, Mr. Ham-

ilton will continue to serve the corporation on its board of directors and on the executive committee.

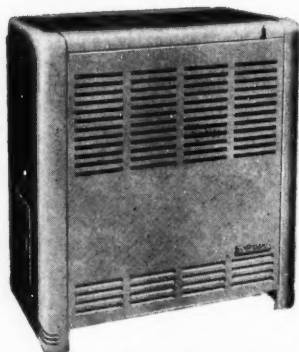
Thomas Hannah, Jr., manager of the Washington sales office of the American Radiator & Standard Sanitary Corp., has been made manager of the corporation's central business contact department, according to Mr. Mueller.

Mr. Hannah takes up his new du-



During the past five months, more than 15,000 people have been entertained by "Dri-Gas" dealers and have witnessed cooking demonstrations on the Roper range using Dri-Gas. Forty Roper ranges have been given away during these events and hundreds of real live prospects developed.

Another MODERN HEATMAKER FOR ALL GASES



The BRILLIANT FIRE Lowboy CIRCULATOR

Fully enclosed and vented, this console model is a high efficiency Heatmaker. Delivers heat forward in living zone. No sweating. Baffled radiator, built-in draft diverter, Pilot and non-clog burner are features. Sturdy cabinet has baked finish, durable, washable. 3 sizes . . . 20,000 Btu up. Automatic controls optional.

WRITE FOR CATALOG 49



The OHIO FOUNDRY & MFG. CO.
Engineers • Manufacturers • Designers
STEUBENVILLE • OHIO • U.S.A.

ties in Pittsburgh. He has been associated with American-Standard for the past 22 years, joining the company after receiving his bachelor of science degree from Princeton.

Robert W. Reniers has been appointed national sales manager for Compressed Gas Cylinders, Inc., Los Angeles, Calif.



ROBT. RENIERS

Mr. Reniers will make his headquarters in the Los Angeles office. He is at the present time on a national tour that will take him to all sections of the country.

Before joining Compressed Gas Cylinders Mr. Reniers was with Kaiser Steel Corp. He was formerly connected with the Jones-Laughlin Steel Corp.

Robert W. Wolcott, president of Lukens Steel Co. since 1925, was named chairman of the board, and Charles Lukens Huston, Jr., vice president and executive assistant to the president since February 1948, was elected president of the company by action of the board of directors Oct. 25. The promotions became effective Oct. 30, which marked the beginning of the company's 140th year in the business of iron and steel-making and fabricating.

Mr. Wolcott, a native of Sewickley, Pa., has been associated with Lukens since 1922, serving first as manager of its warehouse and fabricating division in New Orleans. He became president of the company in 1925 and has held that position ever since.

More and More LP GAS DISTRIBUTORS Are Using METERS



As the LP-Gas industry grows by leaps and bounds, the trend toward metering is increasing. The customer likes evidence of value received.

Wherever meters are used, remember there's nothing to compare with VULCAN Diaphragms for helping to keep meters accurate. The LP-Gases dry out and cause failure of leather diaphragms. VULCAN Diaphragms remain soft and flexible, do not dry out and stiffen. Yet VULCAN Diaphragms require no oiling or other attention.

Join the trend to metering — and insist on VULCAN Diaphragms in your meters.

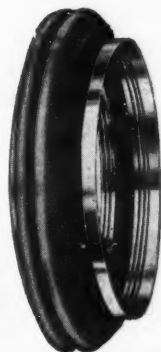
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St. Paul

Kansas City
Toronto



SUE GIBBONS



W. W. BANKS

At a special meeting of stock holders of Dallas Tank Co., Inc., held Oct. 27, it was voted to take \$100,000 from surplus and raise capital stock from \$400,000 to \$500,000.

The stock holders declared a 25% stock dividend to stock holders, issuing one share of common stock for each four presently held.

Officers of the company are W. W. Banks, president; Mrs. Jewell Marie Banks, vice president, and Mrs. Sue Gibbons, secretary-treasurer.

Kenneth W. Cole, 49, manager of the Chicago branch of Pressed Steel Tank Co., died suddenly of a heart attack Oct. 24, in Jeffersonville, Ind., while on a business trip.

Mr. Cole was born in 1900 and originally lived in Avon, N. Y. He was a graduate in mechanical engineering from Cornell University, 1922. He came to Pressed Steel Tank Co. in June, 1931, and has been Chicago branch manager since that time.

Lester L. Buzzard, sales manager, Hays Manufacturing Co., Erie, Pa., reports that their 1949 sales conference, held at Honey Harbor, Georgian Bay, Ontario, was most successful. Mornings were devoted to

AMERICAN-Standard

First in heating ... first in plumbing

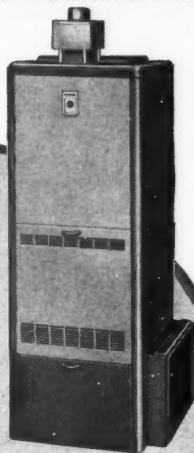
Now ... A TOP QUALITY GAS FIRED

Winter Air Conditioner

*especially designed for smaller size homes
and individual apartments*

The CHIPPEWA

so compact it can be
installed in a closet
factory assembled and pre-wired



■ The CHIPPEWA is just the winter air conditioner for your small home prospects. Of the "high boy" type, this efficient unit is ideal for installation in utility rooms, closets or other first floor locations, and in small basements. Its features include the cast iron heating element and burner found in the larger Mohawk. And its blower and motor are also the finest. Available in one size, with a capacity of 48,000 Btu at bonnet. For specifications of the Chippewa Winter Air Conditioner from the Sunbeam line, and other heating equipment by American-Standard, contact your Wholesale Distributor. American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pa.

The BUDGET Automatic Storage Water Heater

Has fuel-saving cast iron blue flame burner and safety controls. Correctly baffled center flue insures quick recovery. Rockwool blanket insulation between heavy galvanized steel tank and trim jacket prevents heat loss, increases efficiency. Comes in 3 sizes—20, 30 and 40 gallon capacities.



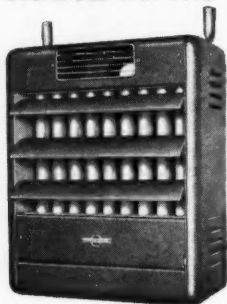
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The smart styling of Peerless Unit Heaters blends perfectly with modern interiors of shops and stores everywhere. . . . The sturdy battle-ship construction and super heating capacities adapts them ideally for rugged industrial and commercial installations. Peerless Unit Heaters are a complete unit — in one package . . . no loose parts to waste time in installation. All controls are rigidly mounted on the heater at the factory, ready for hanging and connecting to gas and power supply. A.G.A. Approved for all Gases.

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presentation of new products, sales problems and plans. Afternoons and evenings were held open for recreation—especially fishing.

Those attending the conference were: Wm. H. Forster, Jr.; John D. Clemens, Kenneth Root, W. R. Johnson, J. G. Bradbury, Wm. J. Boyle, Gene L. Brister, M. L. LeJeal, Irvin Frazier, R. L. Hutchings, J. C. McCarthy, H. S. Peterson, Wm. E. Scott, A. W. Turner, L. L. Buzzard.

El Roy L. Payne, former president of the Payne Furnace Co., Beverly Hills, Calif., has joined Empire Stove Co., Belleville, Ill., as regional manager for southern California.



ELROY PAYNE

Lee A. Brand, Empire vice president, in announcing the appointment, gave 9242 Beverly Blvd. as Mr. Payne's new regional headquarters.

At the same time, Mr. Brand announced that the Beverly Heating Supply Co., 9242 Beverly Blvd., Beverly Hills, Calif., had been appointed a distributor of Empire gas appliances.

Reflecting confidence in the rapidly expanding Canadian market for automatic gas water heaters, the Ruud Manufacturing Co., of Pittsburgh, Pa., has purchased a new factory in Mimico, a suburb of Toronto, Ont. Announcement is made by R. H. Lewis, Ruud president.

Floor space is double that of the present Toronto factory, which has been in continuous operation for over

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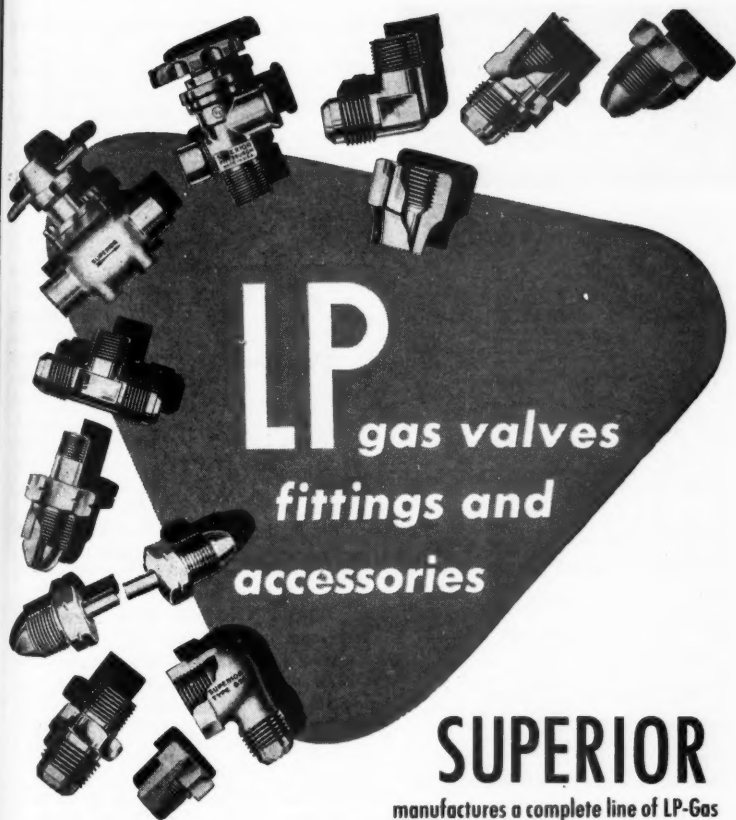
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manufactures a complete line of LP-Gas
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Various types of cylinder valves listed as standard and for re-examination service by Underwriters' Laboratories, with safety devices tested and on file with the Bureau of Explosives.

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DELAVAL PACIFIC CO.
61 Beale St.

ST. LOUIS 1
LANE MACHINERY CO.
Seventh and Market Sts.

TULSA 6
WARNER LEWIS CO.
817 North Lewis Place

40 years. The new factory will have three times the production capacity of the old plant. All models now made in the U. S. plants in Kalamazoo, Mich. and Santa Cruz, Calif., will be made in Toronto and for all gases—natural, manufactured, and LP-Gas.

In charge of the new factory will be A. J. Strain, Canadian general manager.



A. E. MOORE

The liquefied petroleum gas division of Warren Petroleum Corp., Tulsa, Okla., has opened a South-eastern district marketing headquarters in the Alcoa Bldg., 108 St. Anthony St., Mobile, Ala.

The new headquarters, operating in conjunction with Warren's large LP-Gas terminal on Blakeley Island, near Mobile, will serve the territory comprised of Alabama, Florida, Georgia and Mississippi. The office will be in charge of A. E. Moore, who has been Warren's representative in that territory for several months.

Thomas A. Roberts, vice president in charge of sales of M. M. Hedges Manufacturing Co., of Chattanooga, Tenn., has announced that he will start study for the ministry early in 1950. He has long been an active lay leader in the Episcopal church.

Almost a year ago he decided that his life work should be devoted entirely to the church. Mutual cooperation over this period has enabled Mr. Hedges to make plans and train personnel to permit smooth transfer of Mr. Roberts' many responsibilities.



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Cedar Falls, Iowa

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No. 3 FUEL LOADING AND UNLOADING WITH PUMPS AND COMPRESSORS

Unloading Tank Cars — Tank Truck Installations — Bulk Plant Design — Important Installation Features — Four Services with One Pump — Determining Vapors in Tank Cars — Compressor Fundamentals.

No. 4 SERVICING DOMESTIC APPLIANCES

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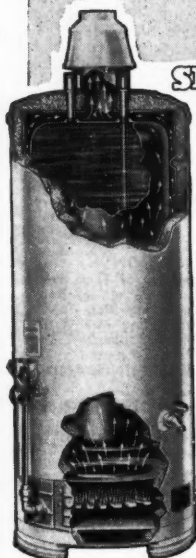
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Trageser Copper Works, of Masspeth, Long Island, makers of Trageser LP-Gas cylinders, has appointed Wasserlein & Co., Inc., 419 Florida Power Bldg., St. Petersburg, Fla., as sales and service representative for Trageser cylinders. The Wasserlein Co. will handle the states of Florida, Georgia, Alabama, Louisiana, and Mississippi.

Henry G. Wasserlein, president, has previously been associated with the East Ohio Gas Co., of Cleveland, the Minneapolis-Honeywell Regulator Co., and General Controls Co.

Hammel-Dahl Co., Providence, R. I., manufacturers of automatic control valves, announces that its control valves are now manufactured in England by the firm of J. Blakeborough & Sons, Ltd., located at Brighthouse, Yorks, England.

Blakeborough are valve specialists and have been in business approximately 140 years. They employ over 1200 people. Their plant and machinery have been rebuilt since the war and their organization is well staffed from the research, engineering and manufacturing viewpoint.

John C. Pankow, director of sales, Detroit-Michigan Stove Co., Detroit, Michigan, has announced the addition of J. M. Clarke, Jr., to the company's sales staff.

Mr. Clarke will contact customers in North and South Carolina and eastern Tennessee and will work under the supervision of F. F. Hamilton, the Southeastern division manager.

Robert H. Ewing, the district sales manager for the Empire Stove Co. and Morley Manufacturing Co., in the western Pennsylvania, Ohio and West Virginia areas, has now established his headquarters at 812 12th St., N.W., Canton, Ohio.

Moody Brothers Celebrate Anniversary in Fort Myers, Fla.

Moody Brothers, Green's Fuel distributors in Fort Myers, Fla., held a big anniversary celebration Sept. 27. It was the 10th birthday of the company in its modern Fort Myers store, and observance of the 16 years that the firm has been serving the community.

More than 800 persons attended the open house, and were served with refreshments and given kitchen utensils as prizes. A Caloric Green's Fuel gas range and a Bryant automatic water heater were given as door prizes during the all-day reception.

Moody Brothers is owned in part-

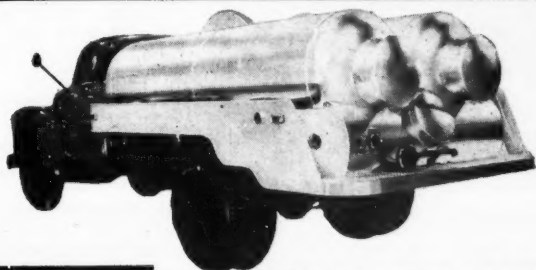
nership by Gerald, Walter, and Thelma Moody. The company has a bulk storage capacity for the area of 186,000 gals.

NGAA Meeting Dec. 9

The third annual NGAA regional meeting for the Panhandle Plains area will be held in the Herring Hotel, Amarillo, December 9, 1949, according to a recent announcement from the association office in Tulsa.

General Chairman Harry Wheel-don, The Shamrock Oil and Gas Corp., Amarillo, states the program will be largely concerned with discussions of operating problems and will feature a symposium on plant cooling.

The one day meeting will have both morning and afternoon sessions



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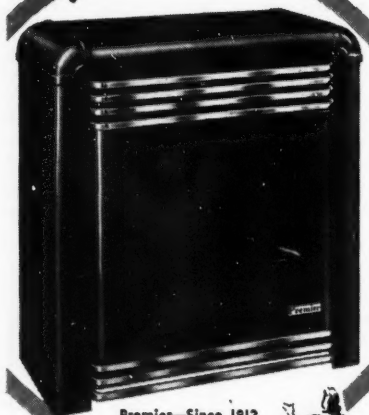
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which will be followed by a social hour sponsored by the Natural Gasoline Supply Men's Assn. A banquet and entertainment is scheduled for the evening.

Gasair Associates to Build Propane-Air Plant for PG&E

The Pacific Gas and Electric Co. has named Gasair Associates, of San Francisco, as the successful bidder for the construction of a propane-air gas plant to be installed at Colusa, Calif. Construction was scheduled to start the latter part of October.

Automatic Gasair equipment with a capacity of 25,000 cubic feet per hour will be installed, supplying an interchangeable propane-air gas with natural gas as a supplemental supply during peak demand periods.

The new Colusa installation is the fourth Gasair plant to be ordered by the Pacific Gas and Electric Co. Three other plants, replacing manufactured gas for complete town service, are in operation at Redding, Red Bluff and Grass Valley, Calif.

Record Attendance Set At Minnesota Service School

The largest group ever registered for a school of the type—276 students—attended the University of Minnesota liquefied petroleum gas service school, held Sept. 6-8 at the university's farm, St. Paul.

Students came to the school from 10 states and Canada to hear industry and educational experts discuss operation and servicing of gas ranges, space heaters, water heaters, gas refrigerators, and pressure regulators.

Introducing the three-day session was J. O. Christianson, Minnesota professor and director of the univer-

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sity's agriculture short courses. Directing the school, was C. H. Christopherson, chairman of the committee on arrangements for the school. Co-operating organizations in the planning of the short course included the National Butane-Propane Assn.; the Liquefied Petroleum Gas Assn.; the Minnesota Petroleum Gas Assn., and LP-Gas appliance manufacturers.

Students attended both large, general meetings and smaller, specialized seminars on the various topics treated. Lecturers included C. M. Stroup, training supervisor of Skelly Oil Co.; H. Emerson Thomas, president of H. Emerson Thomas and Associates; Leonard Lund, Minnesota state fire marshal; E. H. Kahler, American Stove Co.; C. E. Blume, Williams Wallace Co.; H. B. Kivlan, Ruud Manufacturing Co.; Prof. N. H. Ceaglske, University of Minnesota; R. H. Engstrom, The Bastian-Bless-

ing Co.; Barney Swanson, and T. C. Carson, Minneapolis Gas Co.; D. D. Buttolph, Phillips Petroleum Co.; Walter Miller, Dri-Gas Corp.; L. H. Dow, Minnesota Petroleum Gas Assn.; K. T. Davis, Bryant Heater Co.; E. Carl Sorby, Geo. D. Roper Corp.

Texas Operator Sells Retail Business to Employees

W. G. Ellis, of Houston, widely known as one of the largest independent operators in the Southwest, has announced the sale of all of his retail operations.

His business in the past has been divided into retail operations, wholesale appliance and equipment business, and wholesale fuel operations. He will now devote his entire efforts to wholesale operations only. The greater part of his retail operations has been sold to long-time employees of the Ellis companies.

Paul Auten, for years general sales manager of the Ellis operations, has taken over the retail properties in the immediate Houston area.

J. D. Sloane, formerly an area sales supervisor for the Ellis organization, has taken over the company's operations at Sealy, Katy and Wallis, Texas.

Maurice Lloyd, a former employee, has taken over the company's operations at Waller, Texas.

C. T. Hause, formerly the manager of the Cleveland-Conroe area for Ellis, has taken over the operations at Cleveland and Conroe.





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FOR SALE: 2—L124 VIKING TRUCK pumps. Used. 1—Corken model 60 transfer pump—used less than 4 months. 1—Viking KK-253 pump with 1½ hp class 1 group D motor complete on base. Used approximately 1 month. All four pumps \$375 f.o.b. Marshall, Minnesota. Lyco Gas Co., Inc., Marshall, Minnesota.

FOR SALE: THREE CENTURY STRAIGHT butane-propane carburetors and Model M converters with solenoid primers \$40 each. Simonsen Mill-Rendering Plant, Quimby, Iowa.

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